FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

JULY, 1940

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FACTORY, SANDY HOOK, CONNECTICUT

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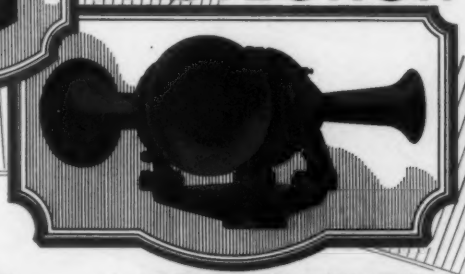
Federal Audible Alarm Signals

for PROTECTION



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and
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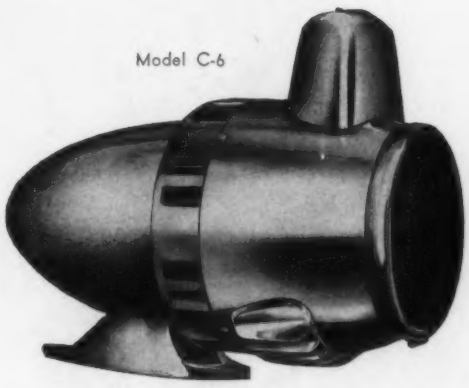
Model C-6



The Federal Electric Co., Inc., has maintained a policy of originating and developing the best in audible signals. The vertical alarm siren; the complete multiple-horn air system; and the combination siren and oscillating light are but three of many examples. For quality, dependability, performance and all other factors of consideration, Federal Signals are outstanding. Write us regarding your signalling requirements.

Specify a Federal C-6 Traffik-King Siren

FEDERAL ELECTRIC COMPANY

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FORT WORTH • DALLAS • HOUSTON PICK THE NEWEST AND BEST IN FIRE-FIGHTING EQUIPMENT!

*FLASH! — As this advertisement was going to press, San Antonio also placed its order for Mack equipment—2 Mack 750 gallon triple combination pumpers!

Justly famed is the State of Texas for the progressive, far-sighted enterprise of its great mo cities. No wonder, then, that Fort Worth, Dallas, and Houston have placed these recent orders Mack fire apparatus! For in picking Mack, they picked the fire apparatus most widely noted fo up-to-the-minute fire-fighting stamina and dependability—and for its progressive design.

The orders: Fort Worth—6 Mack Type 80, 750 gallon triple combination pumpers; Dall 2 Mack Type 19, 1,000 gallon triple combination pumpers; Houston—3 Mack Type 80, 750 ga triple combination pumpers and 2 Mack Type 80, cab-over-engine, city service ladder trucks.

You are cordially invited to view the latest Mack Fire-Fighting Equipment at the I. A. F. C. Convention at Spokane, Washington.

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MACK LEADS IN PERFORMANCE AND DEPENDABILITY!

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The most complete service facilities in the industry stand behind Mack Fire Apparatus. 70 strategically located direct factory branches provide skilled, economical service where and when it's needed—throughout the country!

MACK RESOURCES FOR BUILDING THE BEST IN FIRE APPARATUS ARE UNEQUALLED!

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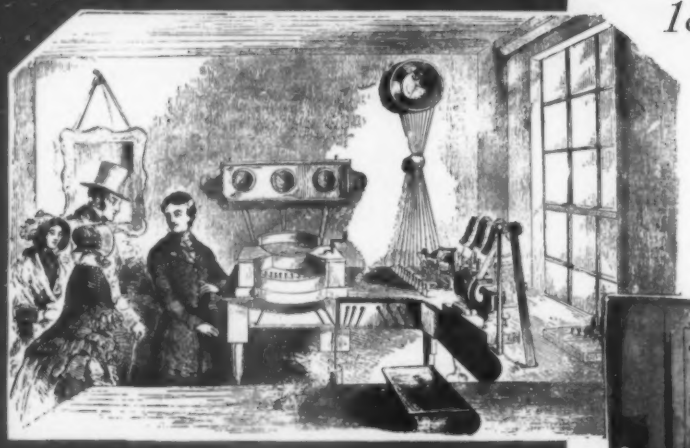
Mack is proud of building the best. We invite comparison. We solicit inquiries.

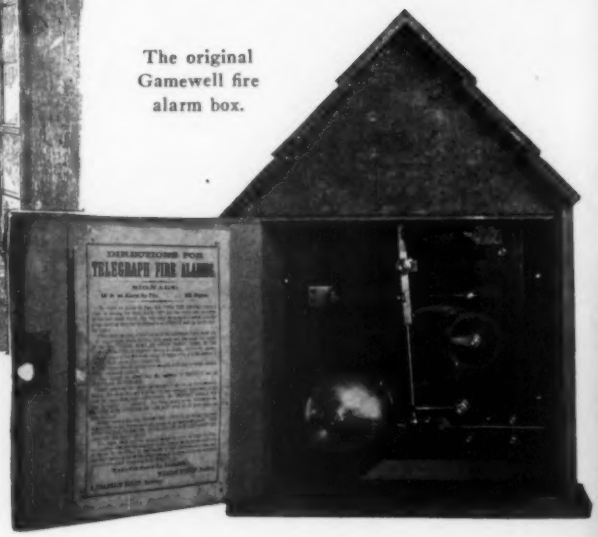
Mack

GAMEWELL FIRE ALARM

1851



BOSTON, MASSACHUSETTS
The first Gamewell central alarm station as installed in 1851.



The original Gamewell fire alarm box.

BALANCE THE FIRE DEFENSES!

Napoleon lost the Battle of Waterloo and the trend of world history was changed . . . because one of his armies arrived a few minutes too late. And conflagrations attributable to delay in bringing to bear the fire-extinguishing agencies have destroyed great cities.

The Gamewell fire alarm system was designed to promote the security of life and property by eliminating delay in the transmission of alarms. The original installation in 1851 was, according to modern standards, a relatively crude affair. Yet the results achieved disclosed such inherent merit that the principles embodied therein have since been incorporated in more than 2,000 Gamewell municipal fire alarm systems now in use throughout the world.

Since the inception of the Gamewell system, many improvements, all tending to increased speed and reliability of operation, have been made. The mechanical elements have been so perfected that failures to function have for years been practically unknown. Many years ago, the Non-Interference and Successive feature . . . evolved by Gamewell . . . eliminated the danger of delayed alarms due to the simultaneous operation of two or more boxes. More recently the Three-Fold safety feature, also introduced by Gamewell, assures the reception of alarms from broken or otherwise disordered circuits.

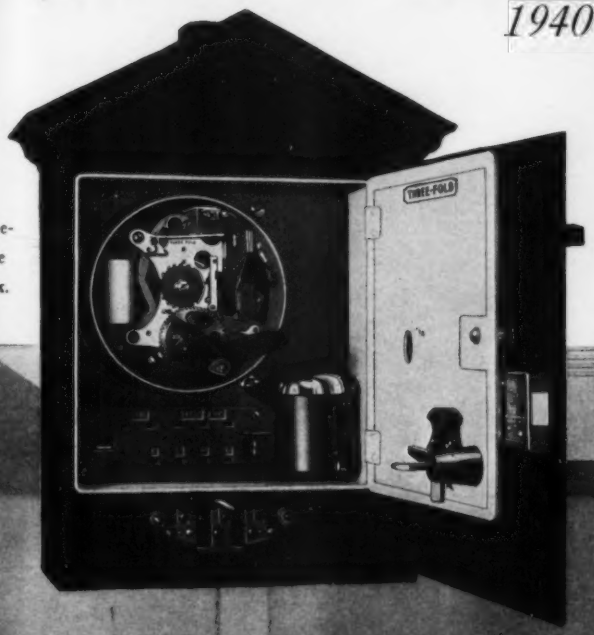
The fire department is the army and water is the ammunition with which fires are fought; but, unless fires are announced during their incipiency, the fire waste will continue irrespective of the huge investments in the extinguishing means. A balanced relationship of the municipal fire defenses is essential.

THE FIRE ALARM SYSTEM IS THE FIRST LINE OF DEFENSE AGAINST FIRE

THE GAMEWELL COMPANY

PROTECTION SINCE 1851

1940



he "Three-
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larm Box.

FOR
MUNICIPALITIES
INDUSTRIAL PLANTS
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WASHINGTON, D. C.
The new "Three-Fold" central alarm station of 1940. 65 years' experience with preceding Gamewell designs again impelled the selection of the Gamewell system for the protection of the nation's Capital City.

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You have a right to be PROUD—

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Your community, town, or city is then protected with dependable, efficient modern and low operating cost equipment.

The pumping engine, shown below, is one of a series of *modern* de-luxe streamline fire engines with safety and operating features provided only by American LaFrance. Seating capacity for five men, fully protected; centralized pump controls and gauges that cannot freeze; overhead mounting of ladders; 2 stage, all ball bearing centrifugal pump, or rotary gear pump, and many other features that combine to make it the world's finest fire engine.

THE INVADER
750 G. P. M.

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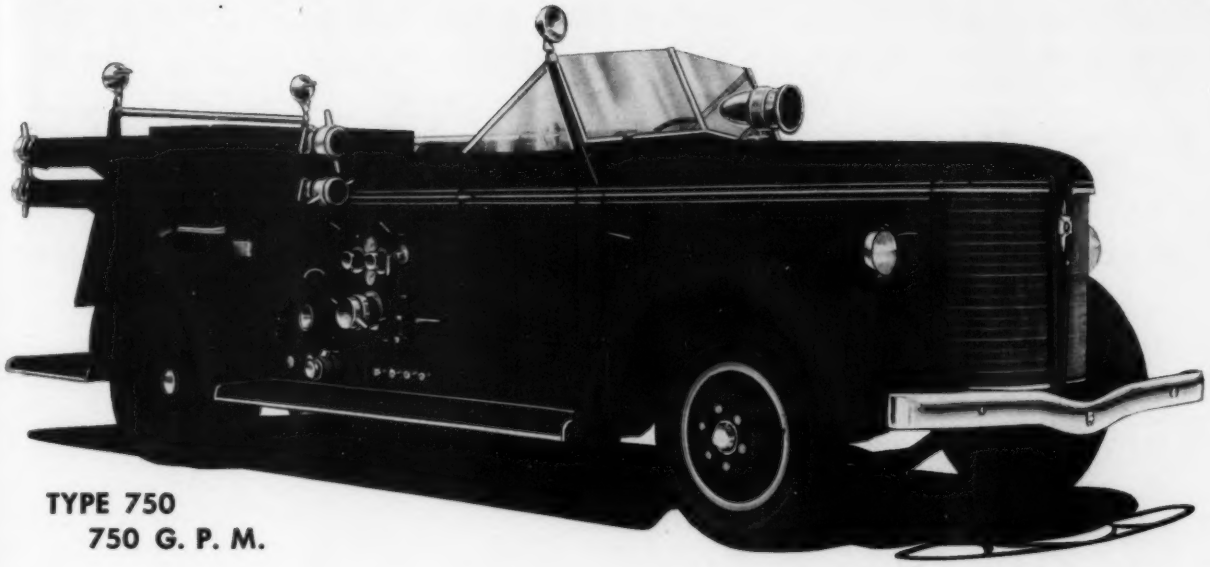

TYPE 750
750 G. P. M.

Two designs are available!

The conventional design shown above is also one of a series of *modern* American LaFrance fire engines. This series has many of the operating features of the de-luxe streamline series that has established an advanced standard of performance in fire service.

These modern pumping engines have a capacity rating of 750 G.P.M. at a discharge pressure of 150 pounds.

190 B.H.P. V-12 engines for pumping reserve—good acceleration and hill climbing ability.

All bronze pumps—no cast iron or semi-steel to rust and corrode.

Centrifugal pump—direct in the line of drive—no pump transmission.

Self contained cooling system—no auxiliary cooler.

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AMERICAN-LAFRANCE-FOAMITE CORPORATION

Engineers and Manufacturers

ELMIRA, N. Y.

A Consolidation of
FIRE AND WATER ENGINEERING,
THE FIRE ENGINEER and
FIRE PROTECTION

FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

FRED SHEPPERD
Editor
N. N. WOLPERT, Assistant Editor.

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MEMBER
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Published the tenth of each month by
CASE - SHEPPERD - MANN PUBLISHING CORPORATION
Also publishers of "Water Works Engineering" and "Sewage Works Engineering"
General Offices—24 West 40th Street, New York City, U. S. A.

KARL M. MANN, President
I. HERBERT CASE, Vice-Pres. and General Manager

SUBSCRIPTION PRICE
U. S. and Canada, $2 a year;
Foreign, $3; Single Copies, 25c.

ALFRED J. HOUGHTON, Eastern Representative; H. S. ESSEX, Production Manager.
CHICAGO: 6 N. Michigan Ave.—W. S. CLEVENGER, L. M. ROCHE; SAN FRANCISCO: 444 Market St.—CHARLES H. WOOLLEY, H. N. HARNER
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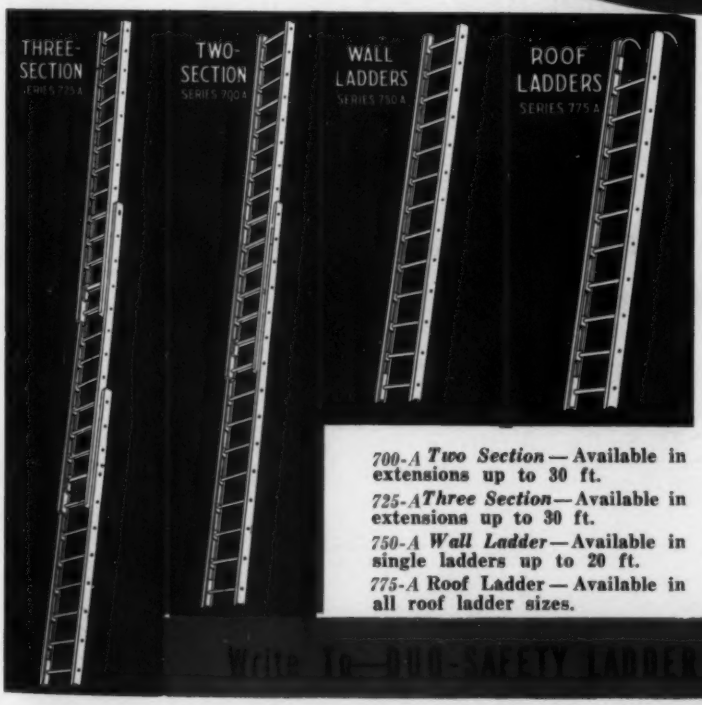
DUO-Safety CHAMPIONS OF SAFETY!

NEW SERIES 700A

FIRE LADDERS

Shows the new lightweight channel construction adapted to short 3-section extension ladders. This new 700-A aluminum series is a worthy companion line to the famous 500-A Series with the rectangular tubular construction.



700-A ***Two Section*** **— Available in extensions up to 30 ft.**

725-A ***Three Section*** **— Available in extensions up to 30 ft.**

750-A ***Wall Ladder*** **— Available in single ladders up to 20 ft.**

775-A **Roof Ladder — Available in all roof ladder sizes.**

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A sensational NEW lightweight ladder designed especially for pumper use! It's the new Duo-Safety all-aluminum CHANNEL CONSTRUCTION—most amazing ladder design ever developed.

Extremely light in weight, it replaces the old style solid side wood short extension and roof ladder for pumper equipment.

It's the ladder you'll want to see—the ladder Fire Chiefs will demand from coast to coast! Investigate now! Write for circular 101 and prices.

Equip your pumpers with this modern lightweight all-aluminum ladder. Write for new broadside 101A and prices—now!

This new Series 700-A channel construction will be shown at the International Fire Chiefs Convention at Spokane, Washington—August 5th to 8th.

Write To—DUO-SAFETY LADDER CORP., OSHKOSH, WISCONSIN

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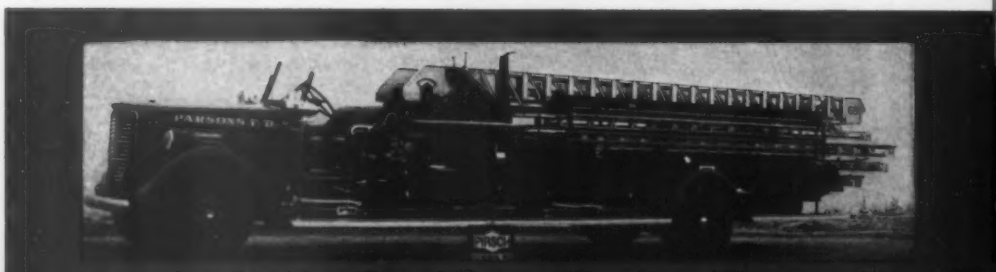
THE PIRSCH QUINTUPLE

The first Quintuple or Five-Way ladder truck was built by Pirsch many years ago. This like many other new and original devices for fire fighting and life saving was definitely a Pirsch development. It is available with conventional style open driver's compartment, two door enclosed cab or canopy type cab construction.



PETER PIRSCH & SONS

UPLE LADDER TRUCK

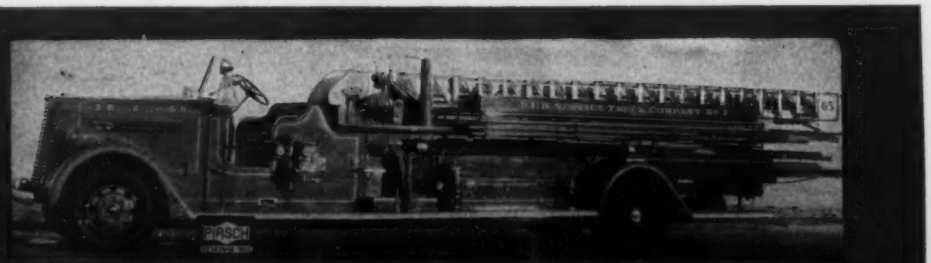
1 Rotary or multi-stage centrifugal pump of 500, 600, 750 or 1,000 gallons capacity.

2 65′, 75′ or 85′ Pirsch aluminum-alloy aerial ladder—the lightest, strongest and best designed metal aerial ladder and powered by the famous Pirsch Hydro-Mechanical hoisting mechanism, America's first powered hoist providing power application for *all* maneuvers.

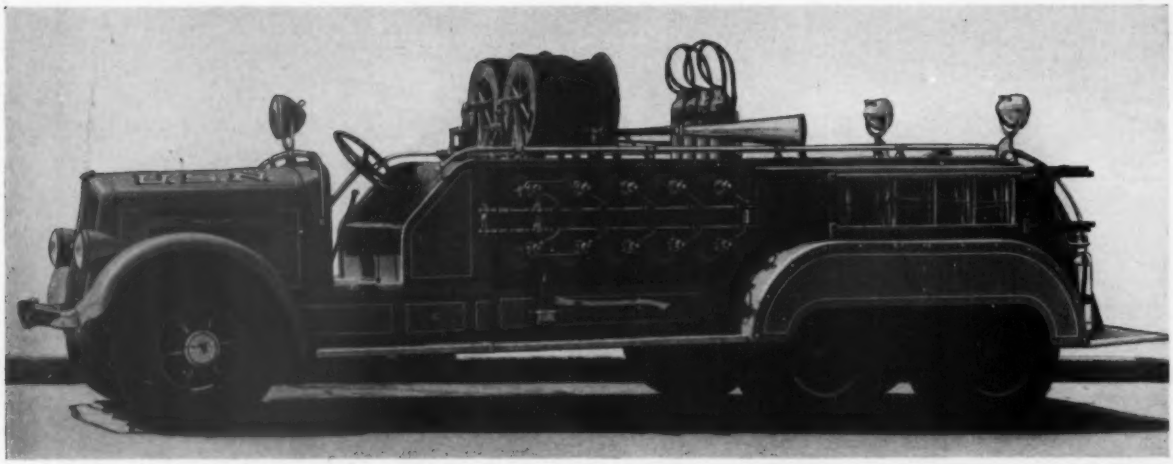
3 200′ Pirsch all-metal or Pirsch trussed wood ground ladders.

4 100 gallon booster tank.

5 1,000′ capacity hose body.



S CO · · KENOSHA · WIS.



This C-O-TWO Crash Truck for U. S. Naval Air Stations has ten 100-lb. size cylinders, two hose reels each with 200-foot lengths of ¾" hose and discharge horn, and six 15-lb. size hand portable extinguishers.

Specify "C-O-TWO"

A Complete Line

of Approved

Portable and Stationary

Carbon Dioxide Type

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EQUIPMENT

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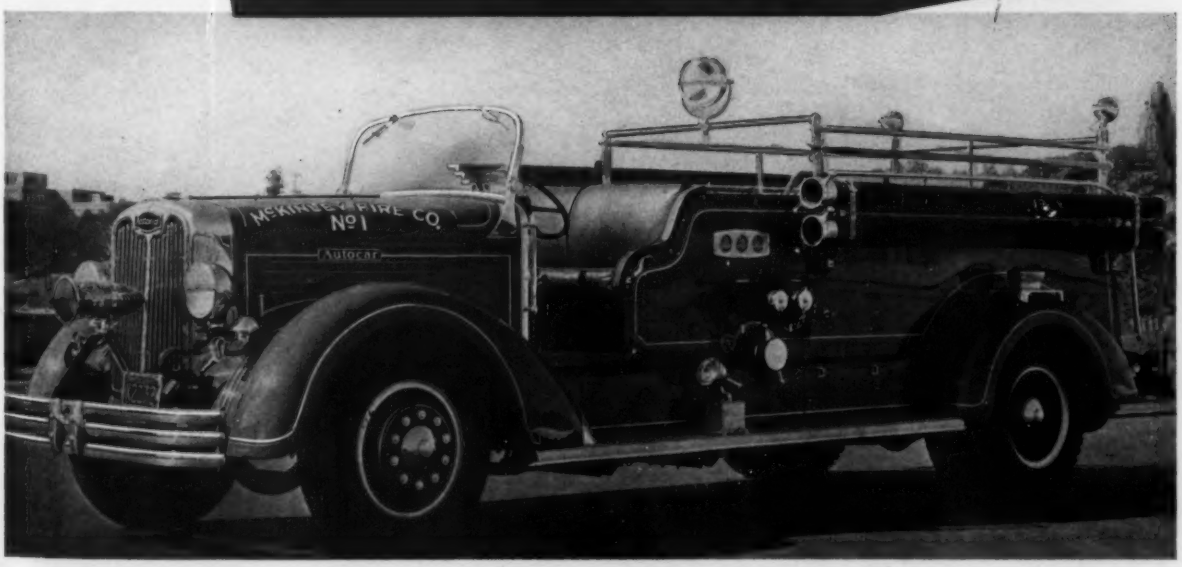
Custom-built
FIRE APPARATUS
MADE TO FIT ANY
LOCAL REQUIREMENTS . . .

This is Autocar's specialty . . . the designing and building of modern fire apparatus to specifications. Let our engineers sit in on your next job and, in the meantime, write for literature and photographs.

THE AUTOCAR CO.
Box FE ARDMORE, PA.

750 gal., 170" wheelbase pumper recently delivered to McKinley, Pa.



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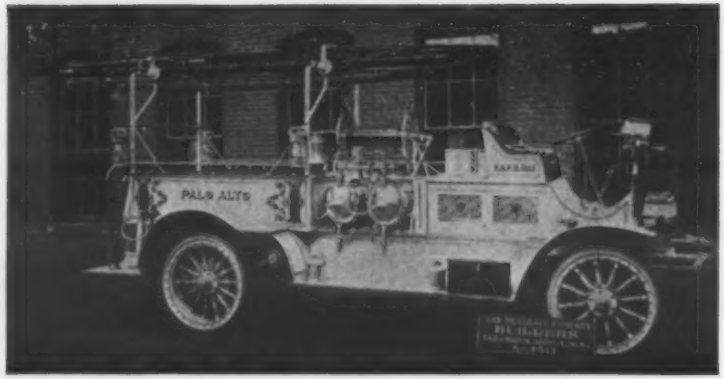
Famous "Firsts"



A Seagrave of more than 30 years ago with overhead ladders and driver's seat over engine.

For better than half a century Seagrave has been the recognized leader in pioneering and developing fire apparatus. Here are a few of the famous "firsts" with which Seagrave revolutionized fire fighting equipment:

1st Automatic Hoist Aerial Ladder Truck—Produced by Seagrave

1st Centrifugal Pumping Engine—A product of Seagrave

1st Automatic Pressure Regulator for Pumping Engines—A Seagrave achievement

1st Self Contained Auxiliary Cooler for Pumping Engines — Again Seagrave

1st All Steel Aerial Ladder in America—Built by Seagrave

1st 100% Hydraulic Hoisting Mechanism for Aerial Ladders—A Seagrave development

1st All Steel Canopy Cab (Pictured below)—Again it was Seagrave

It is no more than natural that Seagrave Apparatus is AMERICA'S FIRST LINE OF DEFENSE AGAINST FIRE.

Seagrave

THE GREATEST NAME IN FIRE APPARATUS

THE SEAGRAVE CORPORATION
Columbus, Ohio

BICKLE-SEAGRAVE LTD.
Woodstock, Ontario

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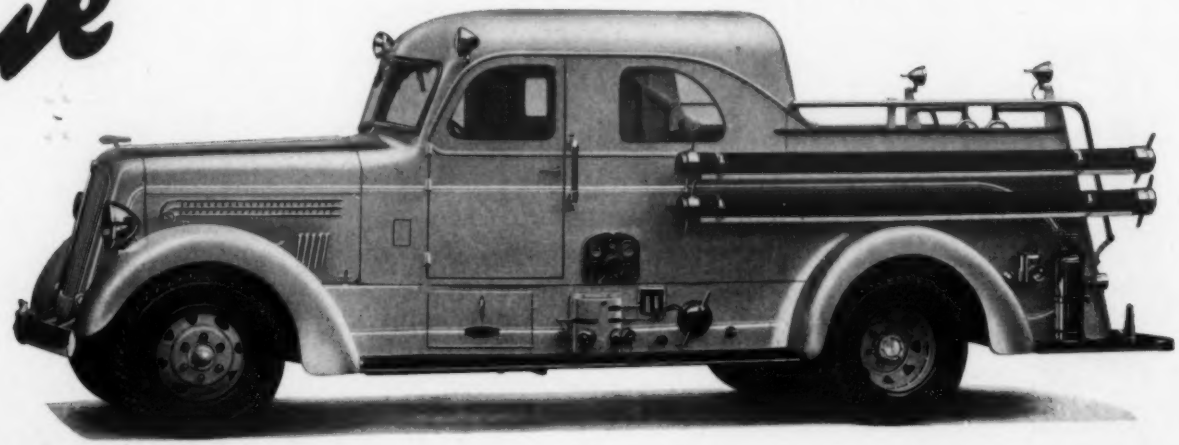

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"THIS IS ONE WAY TO PUT OUT A FIRE!"

But There's a Better One

Sure, Jumbo MIGHT squirt enough water to drench the fire. But why depend on uncertain methods when INDIAN FIRE PUMPS are the quickest, cheapest, best means of fighting room, building, partition, roof and all other Class A fires?

NEW RUST PROOF TANK

INDIAN FIRE PUMPS

THESE LETTERS SPEAK FOR THEMSELVES

D. B. SMITH & CO., Utica, N. Y.

Gentlemen: Your INDIAN FIRE PUMP saves us plenty of time and labor in many cases when we are called out on an alarm because we do not have to lay any hose and the INDIAN prevents a lot of lost time since when we reach the fire we grab the INDIANS from our truck and go to work. They do their work and do it well. Any fire department will save time and labor, also chemical expense if they will equip with INDIANS as we have done.

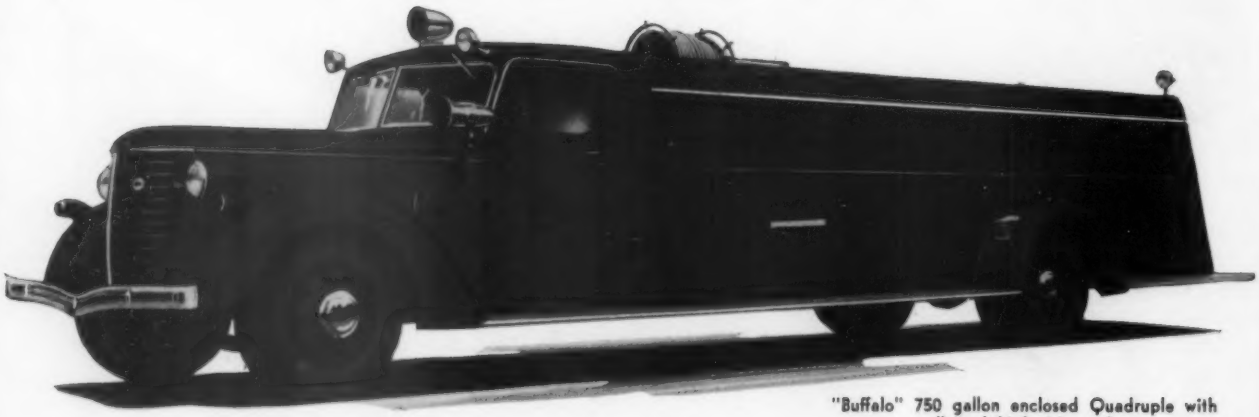
E. P. REMY, Secretary
GREENTREE, PENNSYLVANIA

WESLACO, TEXAS

D. B. SMITH & CO., Utica, N. Y.

Gentlemen: I had no idea INDIAN FIRE PUMPS were such a valuable piece of equipment. With the exception of four or five alarms we have used INDIANS at every fire and in most instances completely extinguished it with no other extinguishing agent. They make no mess and the clear water harms nothing.

E. E. SALGE, Fire Chief.



"Buffalo" 750 gallon enclosed Quadruple with all-steel, high-vision cab.

RUGGED

FIRE APPARATUS

BUFFALO FIRE APPLIANCE CORPORATION

BUFFALO . . . . NEW YORK

FIRE
ENGINEERING

JULY, 1940 VOL. 93 NO. 7

No Time for Weak Departments

Because of the aid now being given Great Britain by this country in the way of war munitions, an international tenseness is developing. As this condition becomes more acute, bitter condemnation of American cooperation in furnishing the Allies with airplanes and other war materials may be expected from Germany.

Even before that time, sabotage may begin to show itself in aeroplane and munitions plants on this side of the Atlantic. Because Germany cannot get war supplies here, and because she cannot stop shipment to Great Britain, her only alternative is to check the manufacture of them in this country. She cannot do this by military operation, so she will have to count on her "fifth column" of German nationals, sympathizers and secret agents to do the work.

That federal officials recognize the danger of such a move is evident from the work of the Federal Bureau of Investigation and other governmental agencies in hunting for spies. But despite their efforts, sabotage, utilizing the most dangerous weapon thereof—arson—will be done. The history of the last war may repeat itself and millions of dollars of damage to essential war industries may result.

With America's big war materials plants running twenty-four hours a day making equipment for Great Britain and our own government, a serious fire in even one of them would be a major catastrophe. To prevent such fires, or to check them before they grow large, is the duty of the fire service.

But trained personnel and modern fire apparatus are vital to this end. An undermanned department, equipped with obsolete fire apparatus, will find itself helpless should a big fire occur.

If cities which boast large war materials plants fail to support their fire fighting forces by refusing urgent replacement of obsolete fire engines, or restoring departments to full manual strength, these cities may find themselves deprived of these large industries.

This is no time to economize in fire protection. If ever the best were needed in the fire service, it is needed today.

Replacement of obsolete fire apparatus today may prove the finest investment a city can make. It may mean the saving of jobs of a large number of local workmen, undisturbed tax revenues, and lightened relief load.

If war tension continues to develop in this country, as all indications seem to show, money for fire protection will have to be spent anyway. Wouldn't it be better to make the investment now to protect our industries rather than to wait until developments suddenly make such improvements imperative? It is better to buy new apparatus when fire apparatus plants are operating within their capacity than it is to make the purchases when they are swamped with orders and unable to promise delivery for months, yes, even years, ahead.

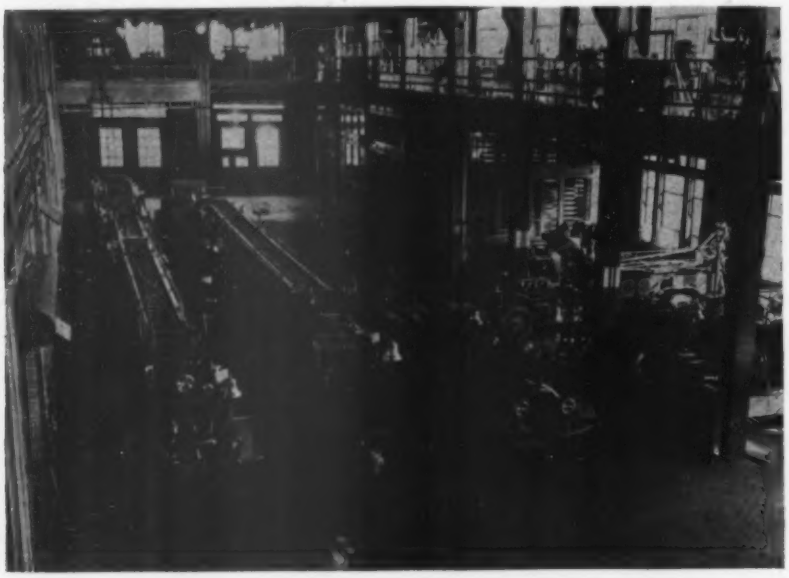
Fred. Skeppard

Apparatus Must Be Bought Now!

Shortage of Skilled Mechanics Already Felt; A Rush of Orders May Tie Up Every Apparatus Plant in the Country

By FRED SHEPPERD

THE American Fire Service today is in a measure very much like the French Army just prior to the fall of that country. It was up to date twenty years ago, and was believed to have been kept up to strength in the intervening years. It took a "blitzkrieg" to prove otherwise.



When Apparatus is Continually Returning to the Department Shop for Repairs, it is Time Do Some Replacing

The American Fire Service, shortly after its motorization, was unquestionably up-to-the-minute. But twenty years have elapsed since then, and although fire departments have been getting by, their strength has waned seriously in the intervening years.

Present Demands Are Heavier

Apparatus purchased twenty years ago cannot be expected to stand the gaff of modern fire fighting. Industry has become larger, and involves more hazardous processes; buildings have become larger, and contents are of higher value. That an abnormal number of larger fires has not occurred in recent years can be credited to the efficiency of the fire fighting force, and despite the unreliable apparatus it is forced to work with. In spite of the efficiency of the fire service, the losses have been creeping up month by month since last year.

Now that this country is participating in the European War, through aid to the British Government, the fire protection problem has increased tremendously. As soon as the weight of American help is felt by the Central Powers, a marked increase in the number of serious fires, particularly in establishments manufacturing war materials, may be expected.

And if the war carries on for a year or two, the chances of America being directly involved are overwhelming.

Local War Angle

In the event that this country does declare war on the dictatorships abroad, we may expect direct attack, from the air, on military objectives such as munition plants, piers, steel mills, automobile plants, etc. And when such attacks do come, they will in all probability be in the nature of bombardment by high explosive and incendiary aerial bombs.

When it is remembered that a one kilogram (two-pound) bomb has proven quite successful abroad, and that possibly two thousand of these can be carried by one bomber, the tremendous number of fires which even a single bomber can start may be appreciated.

It stands to reason that a department which today is able to handle ten simultaneous fires burning within the city limits would be helpless against a hundred, or possibly a thousand, fires.

Industry Requires Protection

An army cannot fight without the support of industry behind it. If industry is seriously damaged, the armed forces are equally weakened. The successful prosecution of war, or successful defense, entails a highly efficient fire protection organization.

That the fire service of this country will be called upon to do a stupendous task is admitted by those in close contact with the military trends abroad and in this country. That War Department recognizes the possibility of such a development is evident from the fact that it is now engaged in developing a program for handling war emergencies from coast to coast.

Get Ready for Sabotage

Most city officials seem to take the attitude that the present fire service is satisfactory for present needs, and that when war arrives, or the "fifth column" begins functioning in this country and employs sabotage through the agency of fire on a large scale, it will be time to buy new apparatus, or otherwise strengthen the department. On this they are sadly misled.

Today it is next to impossible to get skilled mechanics to work in machine shops. Aircraft motor manufactorers are searching for qualified mechanics. Other factories about to

receive war orders will find it extremely difficult to locate sufficient skilled mechanics to operate at full capacity. Within the next two or three months, skilled machinists will command a premium, and there won't be enough to man even the shops of concerns building war munitions.

Where will the fire apparatus manufacturer be if he suddenly finds his plant swamped with emergency orders, and faced with the inability of increasing his regular shop crew with capable workmen?

Shortage of Skilled Men

If all of the cities needing replacement of obsolete apparatus were today to place orders for such machines, the present fire apparatus manufacturers could not fill the orders in five years, even if they had enough skilled workmen to man all of their machines.

If there is a sudden rush to buy motor apparatus, the only thing the fire apparatus manufacturer can do is to bid against other industries to get skilled help. Such competition means a tremendous increase in cost of labor, as the last war so clearly illustrated. Even Canada drew skilled workmen from this country during the last war by offering higher wages than were paid here.

That the fire service is faced with a tremendously serious situation must be admitted. Apparatus cannot be bought over night.

City officials have already permitted their department apparatus to become so obsolete that over half the apparatus in service today should have been replaced before now. When the rush for new apparatus arrives, and it will surely come, there will be frantic appeals to the builders to produce and deliver, but these appeals must be in vain. It is a physical impossibility for any manufacturer to even double his normal output with labor conditions as they will be within the next few months.

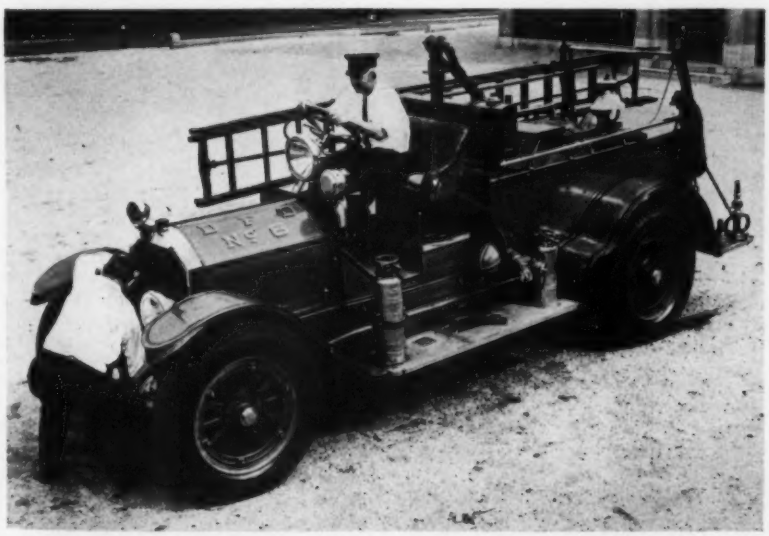
Mechanical Trouble with Ancient Fire Engines May Be Expected. The Twenty-five-Year-Old Unit Has No Place in the Fire Service Today

Order Apparatus Now

The safest plan to follow is for cities to replace their obsolete machines by ordering new apparatus at once. Then the replaced machines can be held as stand-by units in the event that war developments bring a heavy increase in fire hazards and in the number of fires which must be handled by the fire service. This plan would represent no loss, for the obsolete machines would have to be replaced later at any rate, and the interest on the investment in new apparatus from now until the time apparatus would normally be replaced would be far less than the increase in cost of apparatus which must be purchased in haste at the time fire apparatus plants are swamped with orders.

If Fire Chiefs do their part in requesting new apparatus now, they will be free from blame when fire apparatus builders run into the inevitable jam which must occur as soon as rush orders in number begin arriving. One big fire caused either by aerial bombardment or sabotage will cost the city, directly or indirectly, far more than the expenditure needed to bring the fire department up to date. If ever a full quota of modern, dependable apparatus were required, it is now. It will be too late to modernize after the sky is clouded by enemy airplanes. No amount of frantic action, no last minute appropriations, no matter how big, can correct overnight the disastrous weakness of the fire service brought about by years of procrastination.

As was so aptly said by Artababus (500 B. C.), "Haste is ever the parent of failure."



There Are Still Plenty of the Old Hand-Cranked Engines Doing Duty Today. They Have Long Since Been Ripe for Replacement

Former Chief Gunther Honored

Approximately 500 fellow townsmen attended a banquet given in honor of Ernest H. Gunther, Jr., former Chief of the Dracut, Mass., Fire Department, in appreciation for his work and accomplishments as Chief. He was presented with a watch, a gift of many friends who attended the testimonial.

What Progress in Exhausting Smoke at Fires?

THE first Fire Department smoke exhauster, or smoke extractor, was built by Peter Pirsch & Sons Company, at Kenosha, Wis. The most outstanding performance of this unit was at a tunnel fire in Chicago in 1931.

Since that time, considerable

A Type of Portable Gas Engine Driven Exhauster Being Tried Out in New York

thought and experimentation have been given the subject of smoke removal at fires. A number of devices have appeared on the market, and some of the recent ones seem to be highly successful.

To be effective, the point in a basement at which smoke is withdrawn should be high. The smoke and heated gases rise, and accumulate at the highest point. Unless withdrawal is made at this point, the unit cannot be considered fully effective. If for example, the intake for the exhauster is placed down near the floor, it will withdraw the inflowing cooler air in addition to smoke and heated gases.

Influence of Intake

In general, it might be said that the effectiveness of smoke exhaustion is in proportion to the height of the intake of the exhauster. The higher the intake, the more effective the operation.

There's a difference of opinion as to whether removing the smoke by exhaust fans, or forcing the smoke out by delivering fresh air at low points in the basement is the more effective. In favor of the latter, it might be said that delivery of fresh air into a basement utilizes the capacity of the blower one hundred per cent, and furnishes fresh air to men operating near the exhaust of the blower in the building.

Using this method, it is essential that openings of sufficient size be provided in the room so that the smoke and heat can be blown out without forcing the fire up through the partitions, or other vertical ducts.

Short Circuiting the Air

Where exhaustion is done by drawing the smoke out, there is always the possibility of the incoming fresh air short-circuiting to the fan and joining the exhaust. In this case, the unit would not be fully effective, for it would be removing fresh air as well as gases and smoke.

However, this method is the one which is most commonly employed today, and it is apparently producing results.

In the western part of the country, an electrically driven smoke exhauster has been employed in a number of cities, with apparently very satisfactory performance.

An electrical motor is employed, using 110-volt current, and a 15-ampere fuse protection is all that is required.

This type of smoke ejector is set in a frame, and is placed in the window or other opening in the basement.

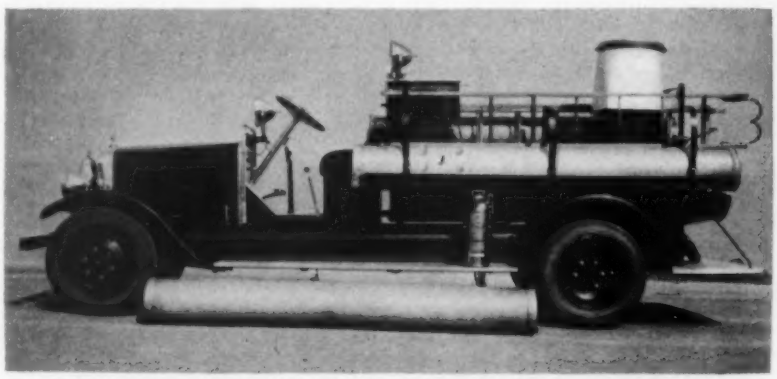
With regard to the performance of this type of unit, Chief T. P. Treadwell of Fort Collins, Colorado, says: "Two years ago, our department put into service a portable smoke ejector, or exhauster. This ejector will move 3,500 cubic feet of air a minute and is equipped with 150 feet of packing-house electric cord on a reel. It may be plugged in on any 110-volt circuit or yard loop.

"The ejector has been used very successfully on all types of fires from basement to elevator fires. It has also been used when fighting fires in the presence of fumes from leaking refrigerant pipes and compressors. In several instances, where gas masks were necessary to combat fire or fumes, only a few moments with the ejector made it possible to continue work without the protection of a mask."

Ejectors at Colorado Springs

"Chief F. A. Taylor of Colorado Springs, Colorado, has also used the same type of ejector. He states: "We have three ejectors in service and have found them extremely valuable in removing smoke.

"We have them mounted in a box-like frame, which will fit into a window, or can be turned down over a coal hole to pull smoke out of a basement. As the fans are built to move a large volume of air, they make an excellent aid to ventilation during a fire and can be used to quickly remove smoke from a building after the fire is out. They are easily handled by two men and can be carried by one if necessary, which makes them avail-

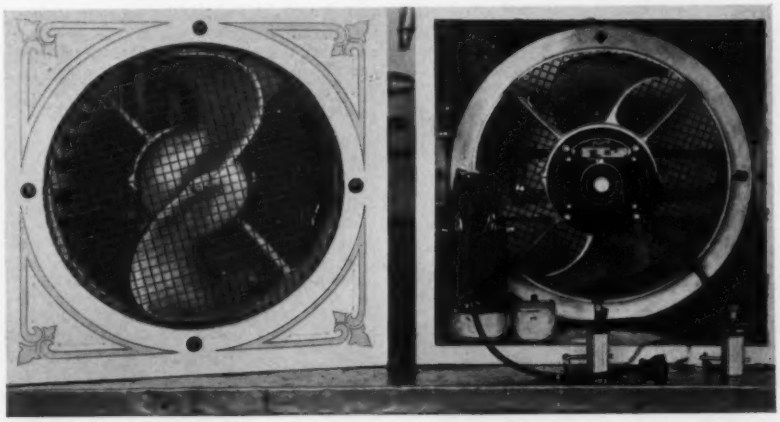


The Pirsch Smoke Ejector Which Was Built in 1931

able for any floor or part of a building.

"We have used them to great advantage in several basement fires and a number of times in the upper floors to clear out smoke. One instance was a fire at the back of a three-story furniture store which burned through the back windows. The fire was stopped here but the building was well filled with smoke. We put these fans to work immediately and cleared the building, with the result that there was no smoke damage, which is unusual in fires involving this type of merchandise.

"They have proven their value in actual practice, and we consider them an excellent investment, as they have saved their cost in reducing smoke damage several times over, and are a great aid to the men in getting to the seat of the fire."



Smoke Exhauster Used at Fort Collins, Colo., Showing the Front and Back of the Fan

Smoke Ejectors Used at Spokane

Out at Spokane, Wash., Chief William P. Payne has five smoke ejectors on service ladder trucks, and one to ventilate the Fire Department paint shop.

He has found the fans very useful for ventilating and removing smoke from basements or other smoke-filled rooms, and makes use of them frequently. When refrigerating apparatus gets out of order, the fans are used to remove ammonia fumes.

As spark-proofed motors have been installed in the fans, there is no danger of sparks from the motor igniting inflammable gas, should such be present.

In New York City a small gas driven unit is being tried out. Whether its capacity is sufficient for Fire Department work has not yet been determined. However, the manufacturers are doing a very thorough job in experimeting with the unit, and if greater capacity is required, such will be provided. This small unit is portable, the engine and the fan being mounted together. Flexible suction hose is employed for conveying the smoke and fumes from the opening of the building to the exhaust.

Units Are Practical

There is sufficient evidence today that smoke exhausters are thoroughly practical units, and aid materially in operations involving smoky fires. A real advance has been made since the first smoke extractor was placed on the market, and further progress may be expected.

Where a particularly smoky basement fire is encountered, and it is impossible for the men to enter for fire fighting operations, the smoke extractor should prove particularly valuable. Also, where gases of high concentration are present, and where it is unsafe for men to enter the premises without self-contained oxygen apparatus, the smoke extractor should serve very effectively.

Missouri Valley Association Elects Officers

This year the meeting of the Missouri Valley Association of Fire Chiefs was held at Sioux Falls, S. D.

The following officers were elected: Chief T. J. Hardwick, Kansas City, Mo., President; Chief W. J. Cawker, Topeka, Kan., First Vice-President; Chief Ward W. Hall, Alliance, Neb., Second Vice-President; and Chief Ray Tiller, Waterloo, Ia., Secretary-Treasurer.

Chief Tiller was authorized to act as International Director of the I.A.F.C. during the coming year.

The State Vice-Presidents elected are: Chief E. A. Brumley, Greeley, Col.; Chief Wright Hedges, Atlantic, Ia.; Chief Donald J. Rayburn, El Dorado, Kan.; Chief W. H. Gardner, Salvage Corps, Kansas City, Mo.; Chief C. E. Hines, North Platte, Neb.; Chief James Black, Grand Forks, N. D.; Chief I. D. Lee, Madison, S. D.; and Chief W. J. Patrick, Laramie, Wyo.

Grand Island, Neb., was selected for the 1941 convention city.

Fire Prevention Bureau for Charlotte

The Charlotte, N. C., city council has authorized establishment of a Bureau of Fire Prevention to make a thorough study of the city code and offer such recommendations for revision as may be necessary to safeguard the lives and property of citizens. This bureau will include: Fire Chief Hendrix Palmer, the City Attorney, the Building Inspector, a member of the city council, a contractor, an architect, and an engineer. This action was taken as a result of the Gutherie apartment house fire which took the lives of eight persons.

Boston Department Gets Boats

As a result of the drowning of four small boys in Dorchester Bay last winter, despite the efforts of the boatless firemen and police, the Boston, Mass., Fire Department has placed three boats in service. These boats are mounted on trailers for rescue work in rivers and other bodies of water around the vicinity of Boston.

The boats are ten feet long and four feet wide. They carry an anchor, a body drag, two life jackets, three oars, and a boathook. They are housed as follows: Engine 37, Roxbury, for use in the Muddy River, Engine 49, Hyde Park, for use in the Neponset River and Mother Brook, and Engine 1, South Boston, for use in Dorchester Bay.

T. G. Stillman

Legionnaire Firemen to Meet

Fire Commissioner Arthur Reilly, Boston, Mass., and Commander Frank J. Marr of Firemen's Post No. 94, American Legion, are urging Legionnaires of all U. S. Fire Departments from all over the country to attend the 1940 National Convention of the American Legion, Sept. 22-26. Free guide services, auxiliary entertainment, free parking, and fun for more than 2,000 firemen are in store for those who answer the call. House parties in every downtown firehouse in the Boston Fire Department will be held.

The convention headquarters for the Legionnaire Firemen of America will be the famous Argonaut Club at the tip of Rowe's Wharf.

Chief Dowling Has Long Service

Chief William Q. Dowling, Jacksonville, Fla., completed thirty-nine years service with the department. Although eligible for retirement nineteen years ago, he prefers to remain in active service.

He was made head of the department on September 1, 1933, following the retirement of the late Chief H. R. MacMillan.

Radio Proves an Indispensable Department Asset

A FIRE department may or may not use its apparatus efficiently. If it has no quick means of calling for additional help, or if it is unable to notify the apparatus of an error made in the location of a fire and the trucks

Two-Way 15-Watt Unit on a Schenectady, N. Y., Rescue Car

have to make an unnecessary run before finding this out, then the department is not utilizing its apparatus with the greatest efficiency. If the department cannot send apparatus back to the station when it is found that they are not needed, or if it cannot shift equipment and men from fire to fire, the department may be said to be operating at lower than its maximum efficiency.

Through the increased use of the radio, this condition is being steadily improved. The radio has made possible the operation of a department as a closely coordinated, yet flexible, unit, free from confusion and lost motion. Whereas villages, towns and cities that do not employ radios in their departments find themselves in the situation mentioned, those that do use radios find a complete reversal of conditions. Trucks can be routed with ease so that they are placed where they are needed the most; trucks with radios installed are in service at all times; Chiefs may go on inspection trips or other departmental business at any time and yet remain in contact with Fire Headquarters; and also the two-way radio has no equal in directing and recalling fireboats while they are any distance from their base.

To determine the extent of, and results obtained from, the use of radios by departments from coast to coast, a survey was made by FIRE ENGINEERING among a representative group of Fire Departments. In the pages following is outlined the information sent in by those reporting. Therein may be found many useful suggestions and results that have been obtained from the use of radio in the fire service.

Austin, Tex.
J. E. Woody, Chief

We use both one-way and two-way sets in our department. Nineteen pieces of apparatus are equipped with receiving sets and four pieces are equipped with two-way equipment.

Our fire department communication system features a loud speaker system connected to all stations, and two-way radio communication with apparatus. Communication may be had with any company at any time, whether in or away from the station. The efficiency of the department has been greatly increased through the addition of this flexible communication system.

Since the city has no automatic alarm system, all alarms are transmitted to the outlying nine stations over the amplifier system. This consists of a main amplifier at Fire Alarm Headquarters, that is connected by means of telephone wires to separate amplifiers at each of the nine neighborhood stations. Associated speakers are in the apparatus room at all stations. This loud speaker system is worked in connection with the radio system.

This amplifier and radio system has speeded up the response to calls about twenty per cent. Since all companies are now equipped with radio sets, there is no time that communication may not be had.

It is apparent that corrections may be made on addresses, alarms may be cancelled when necessary, or any instructions may be given while the equipment is in motion. Communication back to the fire alarm office, or to Police headquarters is accomplished by means of ultra-high-frequency transmitters in the Chief's car, the mechanic's car, and the two squad cars, commanded by District Chiefs, which answer all alarms.

Fewer Companies Moved

Upon arrival at any alarm, all companies that are not needed are immediately ordered back into service by the commanding officer and are available for alarms in their district just the same as if they were in their station. This often saves ordering companies from other districts to respond to alarms which are nearer to companies returning to their stations.

Since all alarms are broadcast, the companies receive a double-check on the location of alarms, thus enabling department officers, who may be away from the station, to make response. Police patrol cars are also thus informed and are able to respond and direct traffic. Any corrections received by the operator are immediately broadcast. Should such an instance occur, the companies alter their course, if the correct location is in their territory, or return to their stations if it is not. Since corrections are also made over the loudspeaker system, those companies which did not answer the original alarm, but whose territory includes the corrected address, then respond.

Companies May Be Ordered Back

On receipt of information that the fire has already been extinguished, the fire alarm operator immediately cancels the call over the radio, and all companies return to their stations, except one, which is sent on to make an investigation. This not only saves wear and tear on equipment, by reducing the mileage, but reduces the possibility of an accident and places the equipment back in service for immediate response to another alarm. Statistics prove that the actual time out of service has been reduced almost forty per cent by the use of the radio.

The two-way radio equipment also enables the commanding officer to order men, apparatus, pulmotor, doctor, or ambulance without loss of time. Since all police car transmissions are received at the fire alarm office, there have been numerous instances of alarms being turned in by squad cars while patrolling. This enables quicker response to fire, resulting in lower fire loss.

Police Radio Used

Since the Fire Departments are not given licenses by the Federal Communication Commission, it has been necessary to make use of the existing police radio system. The Fire Alarm Office is connected by means of telephone wires to the police broadcasting station and makes its broadcasts directly. The system is so interlocked that neither department may interfere with the other. Warning lights and monitor speakers inform each department when the other is using the system. Means are also provided to signal the department using the system when an emergency arises.

The signals from the various mobile fire and police transmitters are received at three points in the city. Special antenna systems on seventy-foot telephone poles are used for reception. Unique use was made of an eighty-five-foot aerial ladder truck while conducting tests for the proper receiving locations. The antennas were attached to the ladder and then raised. The signals from these receivers are brought to both police and fire headquarters over telephone wires.

The cost of the entire amplifier system was only $375. Each of the ultra-

high-frequency transmitters cost approximately $75. This low cost was made possible by the construction of the set by the fire department technician who is our chief operator. We have three operators working on eight-hour shifts and one relief man, making a total of one chief operator and four operators.

In case of a power failure, a standby system is provided by the PBX telephone board that connects with all the stations. The alarm bell system is of the closed circuit type. It is battery operated, making it almost infallible. Any circuit failure automatically causes bells to ring.

The fire department has a twenty-five-foot cabin boat, equipped with fire protection, first aid, and life saving equipment on Tom Miller Lake. This lake is about twenty-five miles in length and is inside of the city limits being controlled by city ordinances. The boat is also equipped with receiving and two-way equipment.

Burlington, Ia.

R. P. Collatt, Chief

We use two-way radio in our department. Two units are two-way mobile stations and three units are receivers only. All trucks will be equipped with two-way units in the near future.

We were pioneers in radio, one of the first to have two-way radios on fire trucks, and we have found them to be very beneficial to a small department of four companies as we have here in Burlington. I think that it is more essential for a small department because of the shortage of man power and equipment. It enables the fire alarm operator to keep in contact with all companies at all times.

If four companies are out of quarters answering another fire alarm, and a second alarm comes in, the operator can easily dispatch companies that are not needed at the first fire, to the scene of the second fire. If the officer in charge of a fire needs more companies, or the off-shift of men, he can contact the radio operator when he nears the fire, or when he sees that the fire warrants the calling out of more companies and of the off-shift men.

We have received several fire alarms going to and returning from other fires. One company received an alarm while returning from a call when only a block from the address of the second alarm.

Errors Can Be Corrected

If there has been an error on the part of the fire alarm operator, or the party sending in the alarm, and the trucks are out of their stations, they can be reached easily by radio. If the company responding is not sure that they have the address right, they can contact the operator without stopping. The radio is useful when all trucks are responding to a fire alarm, and the operator has been notified by the party sending in the alarm that the fire is out. The operator can then notify one truck to proceed to the address to investigate, and the other trucks to stop and return to their stations.

We answered one call for a certain address which was false. We ordered the companies to circulate the neighborhood. One of the companies found the correct address. This company radiod to the cruising trucks which then proceeded to the scene of the fire. We had a grass fire which involved several acres of grass and brush. We used a radio equipped car on each side of this fire, and messages were transmitted back and forth. We have also given orders to companies on their way to the fire to lay lines of hose as soon as they arrive at the scene of the fire. If a company goes out of service on the way to a fire, it can notify the fire alarm operator to dispatch another company to the fire.

Our police squad cars are equipped with two-way radios. This enables them to respond more quickly. At times, they have arrived at the fire ahead of the trucks and have stopped traffic for the trucks. I feel that stationary receivers in all fire stations, which we do have, would be of value as an auxiliary to the fire alarm system, and that a small light weight portable receiver would have its value at a large fire.

We have found many uses for radio so far and expect to find many more in the near future when numerous improvements are made. At the present, our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Headquarters twenty-four hours a day. We use Motorola and Philco receivers and Collins transmitters.

Kansas City, Kan.

Olander Lind, Chief

We use only two-way sets in our department on three Chiefs' cars. Every fire is covered by at least one of these cars. Large fires may be covered by all three.

These radios have been invaluable to us, often being used for calling additional companies while still enroute to fires. I have been called while enroute to outlying fires and notified that the first company to arrive at the fire had it extinguished.

I have found our two-way radio system a great asset to our department in many ways. Ours is such that in case I am covering a fire in one section of the city, and one of my assistants is covering another fire in some other part of the city, I can talk directly with him and know just what is in progress at his fire as well as my own.

Special Case

A very recent use that we put our system to was in connection with a bridge fire which supported the telephone cables supplying a vast section on the south part of our city. When the bridge collapsed, this entire district was without telephone service. As we have only the telephone system for the transmission of fire alarms, it left that section of the city without any emergency alarm system. I ordered the Police Department to place police cruisers at strategic parts of the district affected, I had the commercial radio stations of both Kansas cities announce that in case of an emergency such as a fire, police, or ambulance call, the persons involved should go to the location of the nearest police radio or fire radio car, which would transmit the message to the proper places.

Schenectady, N. Y., Apparatus Provided With Two-Way Radio and a Loud-Speaker System

In fighting this bridge fire, I was on one side of the river with some companies while my First Assistant was on the opposite side. We were only about 1,500 feet apart, yet we would have had to travel about two miles around and over the next nearer bridge to reach one another. Again the radio was used as our means of communication.

Often I have responded to a fire, only to find as I get a few blocks from headquarters that it is a "worker." I can call additional companies, or order a second or third-alarm turned in while I am traveling at a high rate of speed.

Communication at Fire

Often we will get an alarm for addresses that sound alike, such as 756 Barnett, and while responding to that fire, we will catch it over the radio that the fire is at 1156 Barnett.

The whole purpose of the two-way radio system for fire departments is that the department can have their means of communication right on the battlefield, making operations entirely independent of telephones and other means of communication.

Our radio is operated in connection with the police radio. There is a quali-

fied operator on hand at Police Headquarters twenty-four hours a day. We use Link radios.

Miami, Fla.
H. R. Chase, Chief

We use both one-way and two-way radios in our department. One Inspector's car, one Chief High Pressure Engineer's car and two ladder companies are equipped with one-way radios. Ten engine companies, one aerial ladder, and three Chiefs' cars are equipped with two-way sets.

Companies go into service as soon as OK'd at the fire call. They announce their arrival at a fire. If more equipment is needed, we are advised of this fact sooner through the use of the radio than we would have been without the radio. If the first company arriving at the designated address finds the call false, or finds a fire existing that can be handled by one company, the other trucks can be so advised while they are still enroute, and sent back to their quarters.

I believe that the radio is an indispensible asset to efficient fire fighting. If and when tried, any Chief will feel the same as I do. It is one of the biggest advancements made in the Fire Department.

Our radio is operated in connection with the police radio. It is operated under the Department of Public Safety, and each does its own broadcasting. We use two qualified operators at the Fire Alarm Headquarters. They do most of the broadcasting and look after the fire alarms.

We build our own sending equipment or transmitters, but buy the receivers. The main transmitter is 1,000 watt, R. C. A. transmitter.

Brookline, Mass.
S. R. Allen, Chief

We use both one and two-way sets in our department. Two cars are equipped with one-way sets, and one car is equipped with a two-way set.

As fast as we purchase new apparatus, we propose to install two-way radios. These radios keep the Chief and his Deputies in touch with headquarters at all times. It enables the Chief to give orders to the various companies while enroute to a multiple alarm fire, as to which side the companies should station themselves.

I believe that the radio is an indispensible asset to efficient fire fighting. Alert apparatus manufacturers should furnish two-way radios as part of the equipment of their apparatus. Apparatus manufacturers should not wait to be forced to install radios, but should follow the policy of manufacturers of pleasure cars, who are always seeking new devices which will add to safety and comfort of the buying public.

Officer Demonstrating the Use of the Two-Way Radio Placed On a Schenectady, N. Y., Rescue Squad Car

The police prowl cars receive the alarm of the fire via radio at the same time the Fire Department does. This is due to the fact that our radio is operated in connection with the police radio. The police districts being smaller in area than the fire districts results usually in the police arriving at the fire ahead of the fire department. The police immediately radio back the nature and progress of the fire, giving the chief officers and their companies an advanced picture, which is of tremendous value. There are two qualified operators on hand at Police Headquarters.

In the near future, we propose to connect every fire station with a two-way radio as an auxiliary to the fire alarm system. At the present time, the radios we are using were built by the Radio Engineering Laboratory, Long Island City.

Manchester, N. H.
C. H. French, Chief

We use both one and two-way radios in our department. Of the four chief officers' cars, two have two-way sets, and the other two have receiving sets only.

These sets enable the officials to keep in constant touch with the operations of the department while out to fires, or on other business; and it makes for quicker service when additional apparatus is needed, especially in the outlying districts where telephones and fire alarm boxes are scarce.

Of course, I suppose it is possible to get along without the radio, but now since its efficiency has been demonstrated, we wonder how we ever did get along without it in the past.

Our radio is operated in connection with the police radio. This is required by the Federal Communications Commission for all fire departments not having marine divisions.

All messages are transmitted by police operators. Messages are given to them by direct telephone lines. We have a loud speaker in the fire alarm office, which receives all messages for checking purposes.

We have two Western Electric transmitters, one Motorola receiver, and three receivers built by a member of the department.

Ft. Worth, Tex.
C. C. Killian, Chief

We use one-way radio sets in our department. The cars of the Battalion Chiefs, the Fire Marshal, and the Fire Chief, all have sets.

Although our city uses radios in the Fire Department in a limited way, plans are in form for full radio installation during the next fiscal year. I believe that the radio is an indispensible asset in the fire service as it will enable the commanding officer to control operations of assignments at all times on the road, as well as when the trucks have arrived at a fire; they also control needless answering of alarms when such are ascertained to be false or of a minor nature. The radio makes it possible to speed up the dispatching of equipment to localities when needed the most.

Our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Headquarters twenty-four hours a day. The transmitters were made by R. C. A., and we use Motorola receivers.

St. Joseph, Mo.
L. J. Urbanski, Chief

Three Chiefs' cars are equipped with two-way radios in our department. We have found the radio very beneficial. If the switchboard operator discovers that he has sent the wrong address of an alarm, he can reach the Chief by radio and give the correct location, thereby holding the loss of time at a minimum.

I wouldn't say the radio is indispensable, but it does increase the efficiency of the department to a great extent.

Our radio is operated in connection with the police radio. There is a qualified operator on duty at Police Headquarters twenty-four hours a day. We have a direct line with the Police Headquarters. We use Western Electric sets.

Yonkers, N. Y.
Daniel Carnegie, Chief

We use one-way radios in our department. The Chief's car and two Assistant Chiefs' cars are equipped with one-way radios. We have found the radio very beneficial. At fires, a chauffer of one car is assigned to receive all calls from fire headquarters. The reception of

alarms by the chief officers while on the road, assures speedy response and supervision. Police cars also receive alarms, and a detail is assigned to cover fires. I believe that the radio is an indispensible asset to efficient fire fighting.

Our calls are transmitted by the police radio dispatchers over their system. Box and telephone calls for alarms are received by the police by direct wire from Fire Headquarters and relayed.

A Western Electric, 400 watt, transmitter is used with a loud speaker system operating over telephone lines to each company from Fire Headquarters. This system is leased through the New York Telephone Company, and twenty-four-hour service is thereby assured.

New Rochelle, N. Y.
O. A. Grab, Chief

We use one-way sets in our department. The Battalion Chief's car and the Chief's car are equipped with one-way radio sets. The city is considering two-way sets at the present time.

Each and every alarm of fire is sent out over the radio by the Police Department. If the Chief of the Fire Department or the Battalion Chiefs are out of the quarters, and they are required for any purpose, they are immediately contacted by radio. In other words, the chief officers of the Fire Department are always within quick touch with Fire Headquarters and are notified of any emergency at once.

Not only are radios indispensable, but essential, especially so in a city of our size, where the chief officers are on the road much of the day on special investigations and inspections.

Our radio is operated in connection with the police radio. There is a qualified operator on duty at Police Headquarters twenty-four hours a day. We use Western Electric sets.

St. Paul, Minn.
W. J. Sudeith, Chief

A total of nine cars, including all of the Chiefs' cars and the Rescue Squad cars are equipped with one-way radios. We have found the radio very beneficial in many ways. It makes it possible for the Chief to always be in contact with the fire alarm office; it makes it more feasible for the District Chiefs to get out and make inspections of their districts; it brings the Chiefs back into service rapidly; where they run into a fire which doesn't amount to much, the district Chief reports in service over the air; and if another fire occurs in his district, he places a Captain in charge of the first fire and immediately responds to the second alarm. I believe that the radio is an indispensable asset to efficient fire fighting.

Our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Headquarters twenty-four hours a day. We use R. C. A. radios. A police car equipped with a two-way radio responds to most of the fire alarms.

Lexington, Ky.
C. J. Henry, Chief

We use both one-way and two-way sets in our department. The Chief's car and the Assistant Chief and Life Saving cars are equipped with two-way radios. The service car is equipped with a one-way set. The Chief's car is also equipped with a public address system.

We have found the radio very beneficial in asking for assistance at fires, directing and advising officers at fires, and directing the Assistant Chief to answer or not to answer second calls.

I believe that radio is an indispensable asset to efficient fire fighting. Our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Headquarters twenty-four hours a day. We use American-Bosch receivers and Link Broadcasters.

Minneapolis, Minn.
E. A. Traeger, Chief

We use both one-way and two-way radios in our department. Five Assistant Chiefs' cars and the Deputy Chief's car have two-way radios. The Rescue Squad and Chief of the Department each have one-way radios. We have found radios beneficial in transmitting information subsequent to alarms from the scene of the fire to the fire alarm headquarters, and for sending in further alarms and calling for additional apparatus and equipment.

I believe the radio is an indispensable asset to efficient fire fighting. Our radio is operated in connection with the police radio. There is a qualified operator on duty at the Police Headquarters twenty-four hours a day. We use Karadio, Motorola, Link, American-Bosch, and Crosley radios.

Beverly, Mass.
John Cressy, Chief

We use a two-way radio in our deparrtment. There is one set in the Chief's car and three in the police department's cars. We have found the radio beneficial in that we remain in communication with headquarters while engaged in fighting fires in isolated sections; and we can notify the police when additional men are required to direct traffic. To date, the radio has proven dependable in the severest storms.

I believe the radio is an indispensable asset to efficient fire fighting. Our radio is operated in connection with the police radio. There is a qualified operator on duty at Police Headquarters twenty-four hours a day. We use R. C. A. sets.

Springfield, Ohio
Grover L. Frock, Chief

We do not use a radio in our department at the present time, but we had one from 1934 until 1939, at which time it was removed for political reasons only. There was one car equipped with a two-way set.

This radio was beneficial in that it made possible contact with headquarters at all times and contact with other companies without the loss of time in locating a telephone. When a mistake in the location of the fire has been made, the radio can be used to good advantage in correcting the error. The radio makes it possible for Chiefs and other officers to go on inspection trips and not worry about alarms that might come in while they are gone.

Radios are a beneficial asset to efficient fire fighting.

Our radio was operated in connection with the police radio with a qualified operator on hand at Police Headquarters twenty-four hours a day.

The radio that was used was R. E. L. equipment. At the present time the police are using Lynch equipment.

Quite a number of times since the removal of my set I have had many opportunities to use it. Two particular occasions being factory fires, resulting in losses of approximately $15,000 and $25,000. Had I had my radio, I could have had additional companies on the way before I was within one-half mile of either blaze. The conditions of both fires could be seen from that distance. Almost fifteen minutes were lost after my arrival on both occasions in communicating with headquarters for additional help, all because the radio had been removed.

I am satisfied after my five years' experience, that the two-way radio is indispensable to the fire fighting service, and I hope that in the near future sets will be installed in my own and the Assistant Chief's cars.

Pittsburgh, Pa.
N. A. Phelan, Chief

The Chief's, Deputy Chiefs', and Battalion Chiefs' cars are all equipped with one-way sets. There are ten cars in all. No two-way sets are employed.

These radios have been found very beneficial. When these key men are absent from quarters, they are able to receive the alarms immediately. When responding to an alarm, the radio informs one of other alarms. At a fire, the man at the radio receives all alarms. All this saves time. All important matters being broadcast relieves the mind of the Chief Officer, who has many things to think of. I prefer two-way sets. If any detail is unknown, with a one-way set, it is necessary to use the telephone.

Radio is an indispensable asset to efficient fire fighting. I believe that in the very near future, radio will be used by the chief officers in issuing all orders at fires. I also approve of radio in the fire stations, even to replacing the alarm bell.

Our radio is operated in connection with the police radio, and there is a qualified operator on hand at Police Headquarters twenty-four hours a day. We use Philco receiving sets. The short wave broadcasting station letters are W P D U.

Chicago, Ill.
A. J. Mullaney, Deputy Chief Fire Marshal

We use both one-way and two-way radios in our department. There are fifteen one-way sets, and ten two-way sets, with six two-way portable sets expected to be placed in service within thirty days.

Some of the excellent results that have been obtained in using these sets are: Establishing and maintaining a direct line of communication between the scene of the fire and the fire alarm offices; advising and communicating with the chief officers of the Fire Department relative to fire conditions while in the field; and keeping in contact with administrative conditions while away away from the office.

I believe that radio is an indispensable asset to efficient fire fighting. Our radio

(*Continued on page 387*)

A Few of the Regulars at the New England Fire Chiefs Convention

Left to right—Chief Wm. C. Mahoney, Peabody, Mass., newly elected first Vice-President; Chief and Mrs. J. S. Pachl, Annex, New Haven, Conn., with Chief and Mrs. M. W. Lawton of Middletown, Conn. (Chief Lawton was elected 2nd Vice-Pres.); Chief Oliver Sanborn, Portland, Me., who looked after the hotel reservations.

New England Chiefs Discuss War and Other Emergencies

A STAFF REPORT

WITH a total registration of 539, the New England Association of Fire Chiefs held one of its most successful annual conferences at "The Balsams," Dixville Notch, New Hampshire, on June 24-27. The Association also reported a gain in membership of from 860 in 1939 to 963 in 1940. The exhibits were well arranged, and the display was among the finest ever staged by the New England Association.

Chief S. I. Pope Presided

The program started Tuesday morning with opening ceremonies, with Chief Samuel J. Pope, President, in the chair.

The Invocation was by Rev. Michael F. Collins, Chaplain of the New England Association of Fire Chiefs, and the Addresses of Welcome were delivered by Governor Francis P. Murphy of New Hampshire, Gaston C. Cournover, City Clerk of Berlin, N. H., and Fred M. Dodge, President of the New Hampshire Fire Chiefs Association. The Response to the Address of Welcome was delivered by Chief John S. Pachl, Annex Fire Department, New Haven, Conn. Following the Opening Ceremonies, a very impressive Memorial Service was held.

Tuesday Afternoon Session

The first business session opened on Tuesday afternoon at 2 P.M. C. William Johnson, Assistant Secretary of the Insurance Company of North America, Philadelphia, reviewed the growing cooperation between the insurance industry and the fire service.

He called attention to the fact that in 1921 the average fire insurance rate per hundred dollars valuation was $1.05 while in 1929, it was $0.89 and in 1939, it was $0.67.

Chief Thomas Cotter of Providence, R. I. (left), Newly Elected President, N. E. Association of Fire Chiefs is congratulated by Chief Samuel Pope of Boston, Retiring President

He held that this marked reduction in insurance costs proved the value of fire protection and fire prevention activities.

He also called attention to the fact that fire losses were again creeping upward. The total fire losses for this country in 1934 were $275,000,000; in 1937, they were $209,000,000 while in 1939, they totalled $313,000,000.

Approximately one third of the loss by fire occurs in private dwellings. Of 10,000 lives which were lost last year through fire, approximately two-thirds occurred in homes, and one-half of these were children.

Association Dues

At this point, a report was made by the Board of Directors on the action taken by the Committee on Dues. Upon a motion by Chief Daniel B. Tierney, properly seconded and carried, the dues for the New England Association was made $3.00, and for joint membership in the New England and International Association of Fire Chiefs, $6.00.

Under the new setup, members can belong to either association without joining the other. And to join either association costs $3.00, there being no discount for joining the two at the same time.

Delayed Alarms

Under the above title, E. J. McCarthy, General Sales Manager, The Gamewell Company, Newton Upper Falls, Mass., pointed out the inadequate provisions in the average department for notifying the department in case of a large fire. "Such inadequate provision for notifying the department has proven the cause of most large fires" said Mr. McCarthy. The need of informing the department of the exact location of fire is paramount, he pointed out. He also called attention to the fact that the U. S. Chamber of Commerce has asserted that there is today no city where there are enough fire alarm boxes.

With regard to methods of mark-

The Fire Equipment Folk Were Much in Evidence at the New England Convention

Left to right—Hubert Walker and Gordon Litchfield, American-LaFrance-Foamite Corp.; C. H. Barker, Boston Coupling Co.; Jim Love, Akron Brass Co.; J. H. Green, Eureka Fire Hose Co.; Leo Gravelle and Hubert W. Tracy, American Fire Equipment Co.; Fred Beardslee, Mack Co.; Fire Commr. A. H. Carison, Edgewater, N. J., and J. C. Ringers, Fabric Fire Hose Co.

ing fire alarm boxes, Mr. McCarthy reviewed the various systems employed: colored light over the box, which is very efficient; colored light on nearby pole, which is inefficient; reflector over each box, which has proven effective both day and night.

Connections to Fire Alarms

He suggested the extension of fire system into buildings, with connection to automatic fire alarm devices therein. He called attention to the fact that there are sufficient devices now on the market for this purpose, and whose connection to the municipal fire alarm system would be safe.

Kenneth H. Erskine, Local Manager, Liverpool and London and Glove Insurance Company, and Chairman of the Public Relations Committee of the Bay State Club, Boston, Mass., compared the functions and purposes of the fire service with the insurance service, and reviewed how cooperation between the two has grown in recent years. He urged that fire adjusters confer with Fire Chiefs, whenever the occasion demands, in case of fires.

Chief A. H. Koltonski of Rutland, Vt., With the Indian Fire Pump He Won as a Banquet Prize at the New England Fire Chiefs Convention.

Leakage of Gasoline from Underground Storage Tanks

R. M. Cadman, Superintendent, Engineering Department, The Schedule Rating Office of New Jersey, spoke on "Leakage of Gasoline from Underground Storage Tanks."

After citing a number of instances where gasoline had leaked from underground storage tanks and reached hazardous points, he suggested the following precautions as essential:

1. Installation—Tanks should be set in firm ground and covered with soft dirt. No corrosive earth, such as ashes, should be used.

2. Soil analysis before tank installation.

3. Determination of location of tanks. In addition to having the location of tanks on record, the input and output should be checked at all times by the station operators.

4. Test holes around service stations: Such test holes should be drilled and tests run from time to time to determine if there is any leakage from underground tanks.

5. Explosimeter tests in basements, manholes, etc., should be made where gasoline leakage is suspected.

6. Check disposal of used gasoline, which is commonly thrown on the ground as a means of disposal. Such gasoline, penetrating the soil, may reach other structures in the neighborhood.

7. Flash point test to determine if petroleum distillates found underground from leakage is gasoline.

He suggested that tanks and pipes should be capable of standing a ten-pound static pressure per square inch, and for one hour, without appreciable loss of pressure.

Where defective tanks are found, they should be removed or filled up. The subject was widely discussed.

The Rhode Island Delegation of the New England Convention

Training Pictures Shown

On Tuesday evening, colored motion pictures of the Brookline, Mass., Fire Department Drill School were shown through the courtesy of Chief Selden R. Allen. Charles Madden, Aid to Chief Allen and official photographer of the Brookline Fire Department, served as motion picture operator. The pictures were highly instructive, and illustrated the proper methods of carrying out various fire department evolutions.

Wednesday Session

Wednesday morning session started with an address by Harry Newell, Assistant Chief Engineer of the National Board of Fire Underwriters, and Mayor of Bloomfield, New Jer-

Some Popular Figures at the New England Fire Chiefs' Convention

Left, Secretary-Treasurer John O'Hearn with his niece and efficient assistant, Rose McKinney, and Charles Madden, aide to Chief Allen of Brookline, famous for his convention movies; center, Ralph J. Scott, former Chief of Los Angeles and now Managing Director, I. A. F. C., with Mrs. Scott; right, three who always help make conventions successful, Chief Selden R. Allen, Brookline, Mass., Chief Daniel Tierney, Arlington, Mass., and V. C. Stanley, President, Gamewell Company.

sey, on "Transportation and Storage of Flammable Liquids." Mr. Newell reviewed the history of the oil history and transportation of oil. After the World War, railroads chiefly were at first used for transportation of petroleum products; then the transcontinental pipe line came into use, followed by oil tankers (steamships), then finally the tank truck. He discussed the steps taken to reduce the hazards of tank trucks in the event of accidents, and commended New York City on its safety record in movement of gasoline and oil, and the regulations enforced in that city.

Grading Schedule of N. B. F. U.

Following Mr. Newell's talk, Mr. George W. Booth, Chief Engineer, The National Board of Fire Underwriters, discussed the standard schedule for grading cities and towns, as developed by the National Board of Fire Underwriters.

Mr. Booth described in a very interesting manner the development of this schedule from its conception up to the present time. He also explained this application in rating cities and towns from the standpoint of fire defense.

I. A. F. C. Aims and Purposes

Chief Ralph J. Scott, Managing Director of the International Association of Fire Chiefs, spoke on the aims and purposes of the International Association of Fire Chiefs.

After reviewing many of the difficulties encountered today in the fire service in keeping the departments free of politics, Chief Scott urged vigorous action on the part of the Association in protecting members against unjust removal. He also criticized organizations alien to the fire service which have taken upon themselves the prerogatives of the Chiefs' Association.

He urged cooperation of all fire chiefs in carrying forward the organization plans of the International Association.

Life Net Construction

Arthurs Myers, of the Atlas Fire Equipment Company, described the construction of life nets. He outlined points which are essential in selecting safe nets for the fire service.

In the absence of Captain Moeller, of the Superior Fire Equipment Company, manufacturers of "Superior" life net, Secretary John O'Hearn read a paper prepared by Captain Moeller on the construction of these life nets.

An Unusual Gift

Chief Andy Callahan got a wedding anniversary cake at the New England Fire Chiefs' convention, but it was built around a piece of fire hose.

Some of the New Jersey Delegation Pose for Their Photograph at the Balsams

Fire Protection Problems During Air Raids

The first paper on Wednesday afternoon was one devoted to "Fire Protection Problems During Air Raids" by Fred Shepperd, Editor of FIRE ENGINEERING.

Mr. Shepperd reviewed the characteristics of the various types of bombs used in aerial warfare, and their effects. He also outlined methods employed abroad by the fire

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Eastern Chiefs Hold Successful Meeting

Good Attendance and Interesting Program Feature Annual Conference

By OTIS SMITH

MORE than 300 members registered at the Eastern Association of Fire Chiefs conference, held at the Hotel Du Pont, Wilmington, Del., June 6 to 8.

New officers of the association are: Deputy Chief John J. T. Waldron, New York, President; Chief Edward Warr, Baltimore Salvage Corps, 1st Vice-President; Chief William Lutz, Wilmington, 2nd Vice-President. Chief Charles Clark was reelected Secretary, and Ex-Chief Richard Smith was reelected Treasurer.

Directors are: Chief John J. Brennan, New York; Ex-Chief Samuel Conver, New Jersey; Chief Michael Clark, Pennsylvania; Chief Croes, Delaware; Chief Howard Travers, Maryland; Supt. of Alarms Herbert Friede, District of Columbia.

Chief Charles W. Greenfield, Arlington, N. J., nominated Chief Ross Davis, Past President, for Honorary Life Member on the Board of Directors. Chief Waldron also suggested the title President Emeritus for Chief Davis. This also was unanimously voted. Chief Waldron also appointed Chief Ross Davis to be his representative on the Board of Directors, International Association of Fire Chiefs.

Chief Ross Davis Presided

Chief Ross Davis opened the 13th Annual Conference. The two dominant themes during this conference were combating the fifth columnists in this country, and support of the I.A.F.C. program. After an address of welcome by the Hon. Walter W. Bacon, Mayor of Wilmington, the conference was addressed by Andrew J. Kavanaugh, Superintendent Department of Public Safety, Wilmington.

Remarked Superintendent Kavanaugh, "The fire service has a great appeal to the public, as it is both dramatic and direct in action. The public judges the fire department by visual evidence; stations, engines, etc. Chief Lutz has done much to bring the Wilmington Fire Department to the favorable notice of the public."

Secretary Charles Clark reported on membership enrollment. The association has gained many members during the year, but it will gain much by obtaining still more members. Treasurer Richard Smith reported the Association to be in better financial condition than in several years. Chief Smith remarked that the book of proceedings more than amply repays the members for their time and money spent. This book is a unique and valuable record, obtainable nowhere else. He also declared that the war conditions are making fire departments more vital than ever before. The association deserves the loyal support of all firemen, on its efforts in their behalf.

A Group at Wilmington

Chief Lutz, Wilmington and Deputy Chief Waldron, New York City. Center, Miss Betty Phelan, sister of Chief N. A. Phelan, Pittsburgh.

T. Alfred Fleming, Director of Conservation, National Board of Fire Underwriters, spoke on lessons to be learned from fires. He discussed the use of cyclopropane gas as an anasthesia. This gas is all right when intelligently handled. However, a recent case in New York City illustrated the need for proper handling at all times. This gas was being administered to a woman when the static electricity in her body ignited the gas. The resultant explosion caused her death. In proper handling, the operators, operating table, and the apparatus itself should be bonded electrically. This prevents a static electricity charge from building up and causing trouble.

Industrial Hazards

That modern shoes can be dangerous in fire was well illustrated in a recent New York fire, where many firemen were overcome. The materials used in the shoes combined to form toxic gases in a fire.

In a Hartford, Conn., junk yard fire, firemen directed a stream of water at a pile of scrap. An intense white fire sprang up, forcing the firemen to retreat. It turned out that there was magnesium (Dow metal) in among the pile of scrap iron. Had the firemen known of the presence of this Dow metal, they would have used talc, stone dust, or sand on this type of fire.

Mercury is used in boiler tubes to maintain temperatures of 450 to 750 degrees F. Mineral oils in lower ranges are diotherm A and diotherm B. In one case, the tubes failed to circulate properly and burst. The oil ran into the boiler and produced a very hot fire. Steam or foam will extinguish this type of fire in a confined space.

New Fluids in Industry

Modern industry is making use of new fluids besides water and steam for transferring heat. One is where controlled temperatures of above

750° F. are desired. Certain mineral oils and other organic substances are used for temperatures between 450 and 750° F. With these substances, temperatures above 450° F. can be produced at atmospheric pressure, whereas with steam, this temperature would require a pressure of about 400 pounds. These substances are combustible and unless their use is carefully safeguarded serious results may follow.

In paint drying jobs in automobile plants and some garages, infra-ray lights are being used. Bulbs of 250 watts are arranged in batteries of from ten to 800 lights. The lighting circuits must be specially arranged to carry this current load safely.

Photo by Otis Smith

Eastern Chiefs Examining the Junior Engine at Wilmington

Hydrogen peroxide is used to bleach newly made furniture. This furniture is scraped, and the sawdust and shavings disposed of. As these are soaked with hydrogen peroxide they must be disposed of safely, as hydrogen peroxide will cause the wood to ignite spontaneously.

Fire started in the center of a bin of processed soy beans in Marion, Ohio. This fire is thought to have been caused by the oil in the soy bean residue. This residue is more dangerous than the original soy bean, as the oil is exposed to the air. The residue was sprayed with water, to reduce the oil content, and no more fires were reported.

A sawdust conveyor in a mill was the scene of several fires. It was finally found that static electricity was causing the fires. No more trouble was experienced after the conveyor was properly bonded.

In Cleveland, Ohio, an architect designed an orange dryer building with an ethylene tank inside the building. In addition, he had gas stoves hung from the roof, and there were no vents in the roof. The building was completely demolished by an explosion. The same architect had the building rebuilt in the same way, but with the tank of ethylene in an anteroom. A short while later the building was again demolished by an explosion.

Special Cases

As ethylene is highly explosive, the tank should have been outside the building. The pipe from tank to building should be bonded. No flame should be permitted in the building.

On another occasion, a glass front cabinet was used to store some twenty different chemicals. The building caught fire and the firemen had to use a hose line around the cabinet. The glass front was shattered and a jar of phosphorus knocked to the floor. Not realizing their danger, several firemen walked through the phosphorous. On the way back to the station, the boots of four firemen caught fire from the phosphorus. The men were badly burned before they could be given aid. Meanwhile, the remaining phosphorus on the floor beside the cabinet ignited and the plant was burned to the ground.

Mr. Fleming closed his address with a word of warning on the fifth column groups in this country. He also told of subversive pamphlets, which he found on seats in the railroad coach in which he came to the convention, evidently placed there by persons seeking to undermine our form of government.

H. Emerson Thomas, Phillips Petroleum Company, gave an address on "Transportation, Delivery, Storage, etc., of Propane and Butane Gas." He explained the loading of tanks with liquids. The remaining vapor in the storage tank is not sucked into the top of the tank, where it would simply remain as vapor. Instead, it is pumped down through the liquid. As it rises through the liquid it is cooled and changes into liquid by the time it reaches the surface.

Dr. David J. Price, Department of Agriculture, was introduced to the confernce by Chief Davis. Dr. Price remarked that, as he wasn't on the program, he just wanted to state that he intends to continue his studies into fire service hazards, and to publish information on these hazards.

On Thursday night, the Chiefs and guests were taken to Longwood Gardens, the Du Pont estate, where they inspected the enormous hot house display of specimens of flowers that grow throughout the world. When darkness fell, the guests went out on the terrace and witnessed a beautiful display of lights in the fountains.

Training for Firemen

The Friday morning session opened with an address by Arthur W. Espey, Head Teacher, Fire School, Public Service Institute of Pennsylvania. Mr. Espey talked on "What Firemen Training Is Doing for Pennsylvania."

"When we think of the qualifications of the fire fighter," said Mr. Espey, "we are prone to regard them as applicable to but one designation, the paid fireman. We perhaps have unconsciously regarded the volunteer fireman as a different sort of being. Yet we must fully realize that the desirable requisites of a smoke-eater in battle do not justify the indulgence of argument and debate over such momentarily unimportant phases as salaries or monetary rewards, or whether the man is a paid, semi-paid or purely volunteer fire fighter. The important thing is that all fires should be fought with equal intelligence."

Volunteer State

"Pennsylvania is predominantly a volunteer state. One marvels in the knowledge that, exclusive of the 4,500 firemen in cities boasting a full paid fire department personnel, there are approximately 130,000 volunteer firemen enrolled in the 1,800 volunteer fire companies of the Keystone State. These fire companies are scattered over the sixty-seven counties with, of course, a heavy concentration adjacent to the metropolitan areas. To

have a hand in the guidance and development of a training program for such a vast aggregation of fire fighters is a task that provides an opportunity for constructive effort, imagination and planning."

Mr. Espey went on to sketch the work of the various organizations responsible for the beginning of training in Pennsylvania. In 1935, State Firemen's Association Convention appointed an educational committee to lay plans for the development of a state-wide firemen's training program. The Public Service Institute was organized in the Bureau of Instruction in 1938, to offer instructional programs to firemen. A Fire School Advisory Committee determines the most desirable practices in conducting the course of training. This committee is made up of experienced fire fighters of both paid and volunteer departments, of chief officers and of the rank and file.

Classes Started in 1939

The first class for firemen was begun on January 13, 1939, and the prescribed course included fifteen weekly sessions. At the conclusion of the first six months, 1,246 student firemen were diligently applying themselves to the training. The demand for classes soon outgrew the available supply of qualified instructors. Instructors were chosen from among those enrolled in the Teacher Training group, who attended the First Annual Fire School at Pennsylvania State College in 1939. These new teachers are now teaching at the zone fire schools throughout the state.

It is expected that between 450 and 500 firemen will enroll in the Second Annual Conference to be held again at State College this August. There are four training sections in the school. These are: The chiefs' section; engineers, drivers and mechanics; rank and file of firemen; and teacher training. The student enrolls in the section for which he is qualified.

Many of the fire companies enrolled in the school have awakened to the realization that they can give better service by using modern methods. This has been reflected in new apparatus, salvage work, and improved methods of handling fires.

School in Early Stage

Mr. Espey concluded his address with the following remarks: "Our Fire School may yet be said to be in the formative stage. It would be arrogant were we to allude to it as yet as a definite success. We have every reason to believe, however, that we are well on the way toward our goal. Looking forward then with confidence we can visualize the ultimate results of our efforts in the complete justification of our aims and plans. Better training and co-ordinated functioning should eventually bring about that high degree of efficiency that should characterize the firemen of Pennsylvania as second to none."

Other Instructors Present

Chief Ross Davis called upon another instructor in the room, Chief Just, Director of Fire Service Extension, University of Maryland. Chief Just commended Mr. Espey on his address and spoke on the absolute necessity for the modern volunteer to take training. He declared that the untrained volunteer fireman is useless to his department.

Deputy Chief John Waldron next spoke on how fire departments should meet the unusual occurrence. He discussed methods of handling a building collapse, train wreck, or automobile collision. Chief Waldron told of the need for regular and frequent drills, supplemented by special drills, to meet the unusual, or even improbable, situation.

Chief John J. Brennan, Pelham Manor, N. Y., talked on hose layouts. For the average fire in a dwelling, a line of 2½-inch hose may be laid from water to fire, a four-way wye is then attached and four lines of 1½-inch hose with ½-inch tips taken off this single 2½-inch line. This allows greater flexibility, less men, and less water damage. Chief Brennan cautioned against the use of a 1½-inch line on a large fire.

Importance of Conventions

Chief Edward Warr, Baltimore, advised fire school instructors to attend the conventions and absorb modern ideas. He told of early experience, where he found that instructors who were teaching bodies of firemen had never fought a fire. These instructors were simply teaching what they had read in a book. Chief Warr also remarked that firemen are not expected to be hydraulic engineers. The ability to master equations does not make a man fit for promotion unless he also has actual fire fighting experience.

Art Espey introduced Chief J. Jack Weiss, Philadelphia Navy Yard. Chief Weiss discussed ways to combat incendiary bombs. White prosphorus is used in bombs and ignites on contact with air. Fifth columnists in this country may use sodium to start fire in war industries. Firemen must learn how to combat these types of fires.

Fred. Shepperd, Editor of FIRE ENGINEERING, outlined the essentials of good fire streams and pointed out methods of securing them.

Educational Work of I. A. F. C.

Ralph J. Scott, Managing Director, International Association of Fire Chiefs, spoke on the Educational Program of the I. A. F. C. He declared that, at the present day, the I. A. F. C. is at the crossroads of its life. There is an open season on fire departments and the most vigorous of efforts will be necessary to conduct the association program. Various leagues of municipalities have publicly announced their intention to destroy the association and take the Fire Chiefs under the control of these civilian groups.

Fire Departments are being reduced, and the Chief is blamed when a fire gets away from his reduced force. The I. A. F. C. should call a halt to the political and busybody efforts to weaken the fire departments. Chief Scott declared that the Regional Chiefs Associations must take over the leadership in fire department matters. If they fail to do so, he declared, the fire departments will fall completely under the control of other groups.

Chief Scott went on to tell of the training programs of the I. A. F. C. The section on firemen training is striving to unify all regional training programs. From these will be developed a master plan, embodying the best points from the regional programs.

The Master Mechanics will have a section where they can meet on common ground and discuss their problems and ideas. Other sections are the Fire Prevention Engineers and the State Fire Marshals. The Marshals belong with the fire departments. The Chiefs must cooperate with the Marshal, or the latter's work cannot be done.

I. A. F. C. Disaster Program

Chiefs are urged to cooperate with the I. A. F. C. Disaster Program. Questionnaires have been sent out and Chiefs should send in their best ideas on how to cope with the problems as outlined. The information compiled will be distributed to the service. Chief Scott cited one example of a disaster program; the oc-

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Blitzkrieg for Forest Fires

"Smoke Jumpers" Drop from Airplanes to Fight Fires in the Forest Away from Highways

By ARTHUR C. BROMIRSKI

At the End of the Descent
"Smoke Jumper" ready to free himself from his parachute. He will next remove his protective suit, and start for the fire.

FOREST fire!

Suddenly the fire observation towers in a National Forest becomes a beehive of activity. Rangers peer anxiously through high powered field glasses at the great clouds of black smoke that surge angrily toward the sky. Telephones, communicating with other towers in the vicinity, begin to ring. Orders are given out and received in calm, steady tones. The forest fire fighters are at work to meet the situation.

Many Areas Inaccessible

Despite the fact that the rangers in our National Forests are a highly efficient group of fire fighters, there are still some sections of our National Forests that lie in such inaccessible regions that it is very difficult to fight fires in them. Ordinarily the Forest Service uses the highways and forest roads to speed men and equipment to fight fires. Even airplanes are used—there are seventy-six airplane landing fields in our National Forests.

But there are times when fires, starting in remote parts of a forest, cannot be reached within a reasonable period of time and hence assume huge proportions before the fire fighters can reach them. As a consequence, more men often have to be brought to the scene of the fire in order to bring it under control. In order to reach these remote spots, the men must travel over mountainous land and by the time they actually do reach the fire, they have used up a great amount of their energy, and they are not in the perfect condition that is required of fire fighters.

"Smoke Jumpers"

It was because of this that the United States Forest Service has been experimenting with "smoke jumpers"—fire fighters who reach fires in inaccessible regions by way of parachutes. It has long been believed—and experiments thus far have proved it to be true—that a well trained and experienced fire fighter can, if he is at the scene early enough, bring a fire under control before it becomes a great conflagration.

In Chelan National Forest in Washington "smoke jumpers" are used for fighting fires in the great back country stretches. Dressed up in an outfit that makes him look like a visitor from another planet, a "smoke jumper" takes off in an airplane with a pilot for the scene of the fire.

Study Wind Action

When they reach the spot of smoke they release a small burlap parachute at the end of which is a bag of sand. This is a test chute and, by observing its descent, the wind drift can be estimated. This is important, for without it the jumper would be unable to gauge his own descent. Next, having noted and taken into consideration the wind drift, another burlap parachute which is attached to a kit containing fire-fighting equipment, tools, food, first aid kit, water, and a portable radio is sent down.

Lands Near Equipment

As this second chute goes down a long yellow streamer is released from it so that its whereabouts on the ground can be easily detected. Finally the "smoke jumper," at a signal from the pilot, jumps off the plane and guides himself down toward the spot where the equipment kit landed. Upon landing he takes off his specially designed suit, and taking up his

Two Jumpers and a Pilot Stand Beside a Plane of the U. S. Forest Service

Complete Equipment Used by a Parachute-Jumping Fireman
The set includes suit, gloves, rope, emergency and regular chutes, standard and smoke chaser outfits.

kit, he heads for the fire. If he is able to extinguish the fire without any additional help—and this is usually the case—he goes about his task and then informs headquarters "Everything's O. K." But if it should happen that he is unable to keep the fire from spreading, he radios at once for more men and equipment.

The suit which a "smoke jumper" wears is designed to protect him from injury when he lands in a tree. It is made of strong duck and is well padded. Over his face he wears a special helmet with a steel mesh which keeps the leaves and branches from scratching or tearing the flesh on his neck and face.

New Chief's Car for Al Herring

Contributions have been coming in from firms, individuals, and friends of the Murphysboro, Ill., Fire Department to pay for a new Fire Chief-Community car for Chief Al Herring. The car, a Buick-8, is said to be as completely equipped as any car in like service in the St. Louis area. The car is now in the St. Louis repair shop having all the finishing touches applied, such as lettering, bell, siren and other necessities.

Westchester County Emergency Plan Meets

The final meeting of the 1939-40 season of the Fire Chiefs' Emergency Plan of Westchester County (N. Y.) was held at fire headquarters, Fairview, N. Y. William Livingston, newly-elected President, presided. Attendance was 165.

Chiefs Stillman and McGovern of Fairview welcomed the Plan to that community. Incidentally, that Village has two Chiefs of department—one paid, and one volunteer. Commissioners MacWherter, De Napoli and Calgretta were introduced together with other visiting officials and guests.

Following the reading of minutes of previous meetings, an important communication from the Postmaster General's office was read. This acknowledged the Plan's resolution made formally upon the Postmaster General for the issuance of commemorative postage stamps to honor the fire service—paid and volunteer—of this county, but stated that the Post Office Department regretted that owing to the extended postal program now being completed, it could not entertain the Plan's suggestion.

New Officers

President Livingston read the names of the new officers, together with the list of committees and new committeemen. Only one new committee was announced, this to be known as the "Special Emergencies Committee," with ex-President Roi Woolley as chairman. The committee will devote its efforts to extending the Plan's mutual-aid work to cover wartime as well as peacetime emergencies.

President Livingston reported on the successful May Annual Dinner, attended by nearly 400, which netted a small profit. Among the communities that have joined as Sustaining Members since the May meeting are Ardsley, Dobbs Ferry, Hastings-on-Hudson, Pelham Manor and White Plains. New individual members elected were: Captain Larizi and Lieut. Smalley of Chappaqua; Lieut. Russo, Fairview, and Capt. Fred Kosso, Briarcliff Manor.

The new Chairman-elect of the Program Committee, Chief Van de Water, conducted the forum, which included a "Quiz Session" based upon questions taken from the question box. Numerous members joined in this discussion. Chief Van de Water urged greater membership in the International Association of Fire Chiefs. Chief John Brennan told about the New York State and Eastern Division Conventions. Chief Richard LeVino of the Town of Mamaroneck reported on the Plan's forthcoming County-wide Fire Prevention Program, on which it was voted to spend the same sum this year that was expended for last year's campaign.

The members paid a silent, standing tribute to the memory of the late Chief John Kenlon.

The new President, Commissioner Livingston, paid a graceful complement to his predecessor, Roi B. Woolley, for his four years' administration and, in turn, Chief Woolley urged members to give the new management the unstinting support that was given him. He stressed the need of effective mutual aid, and of preparedness for what may eventuate in these troubled times. He told how the War Emergency Committee of the International Association was working to perfect national plans and recommendations to help guide the fire service should war come. He urged chiefs to increase their inspection of storage places of dynamite and other explosives, pointing out that thefts of explosives from contractors and other sources appear to be on the increase.

The members honored Secretary Howard Geer and Sergeant-at-Arms Cornelius Falch with suitable cash awards and gave Treasurer Edward Siller a special vote of appreciation for his long and faithful service.

Following the business session, refreshments were served by the Fairview Fire Department. The next meeting will be held October 16, possibly at Bedford, N. Y.

Blazing Truck Fires Gas Station

For two blocks, in Lansing, Mich., a flaming, driverless truck loaded with several thousand bricks, plowed through all sorts of obstacles, finally coming to rest at a gas station. The truck, which was then burning briskly from a gas tank explosion, soon set fire to the station.

The accident started at an intersection, where the truck was struck broadside by a car. The truck's gasoline tank was ruptured, causing it to explode. The driver remained with the truck, which was enveloped in flame, and tried to stop it, but was unable to do so because of a broken air-brake hose. Finally he jumped to safety.

In its wild ride, the truck sheared off a lamp post, ran along the sidewalk and cut off a large telephone pole. It continued through the driveway of one gas station, where it sheared off a large iron sign post, crossed another intersection and crashed into another gas station. The fire was brought under control by three companies of the Lansing Fire Department about an hour after the accident occurred.

Cuyahoga Heights Drops Chief

The Cuyahoga Heights, Ill., Village Council has amended its ordinance governing the Police and Fire Departments in order to eliminate Chief Charles B. Scott. The post of Fire Chief has been labeled as unnecessary because many of the men who have been with the Fire Department, since it was first formed, are considered to be able to alternate as acting head of the department.

Chief Scott was appointed Chief eight years ago and has been in office ever since. He was in charge of the station on alternating shifts with one of the other six firemen acting as Chief in the time Scott was off.

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

LIFE NETS AS STANDARD EQUIPMENT ON FIRE APPARATUS

THE first consideration of any Fire Department must be the saving of life. Fighting fire, while important, becomes secondary when there are persons trapped in a burning building.

There have been many news accounts of fires isolating occupants on window ledges, many floors above the street.

To facilitate rescues in such cases, the Massachusetts legislature made it mandatory that all motor apparatus purchased by municipalities of that state, must carry life nets.

It is a law that pioneers a new step for departments. Based on that measure, there is presented in this round table a discussion on this action and the use of life nets. In the box on the following page is the problem that will be presented in the next issue.

Discussion of the Question

W. N. Bates, Chief, Elyria, Ohio: I am not familiar with the building laws of the State of Massachusetts, but it seems to me that the best way to reduce the life hazard is to have laws requiring better construction and regulations for new buildings and stricter supervision for those already built.

In Ohio, we use enclosed fireproof stairways, adequate metal fire escapes, fireproofing of heater and fuel rooms, and subdivide large areas by fire resistive doors and partitions, and other safety measures.

We carry one of the latest improved life nets on our ladder truck, but as yet have had no occasion to use it nor have we ever had to use a life net at a fire.

It seems to me that it would be better to provide means of escape in each building rather than to depend on life nets on fire apparatus which may arrive too late, and perhaps be manned with an inadequate crew for life saving. Life nets, in my opinion, are for extreme emergencies and do not take the place of proper provisions in each building for the safe escape of the occupants from fire.

A Fire Department should have a reasonable number of life nets and the men should be trained in their use.

Albert Luedeke, Chief, Freeport, Ill.: I believe a life net should be included as part of standard equipment on pumpers and ladders. Should a pumper arrive at a fire before the ladder truck, they could immediately stretch out the net and save lives.

I believe it is a good plan to occasionally use life nets in the training program. However, I do not believe it is wise to do this at all drill periods because it sometimes leads to accidents.

Daniel H. Shire, Chief, Mason City, Ia.: I do not agree with the legislation requiring that all motor fire apparatus carry life nets.

Anyone who has had a great amount of experience with life nets, knows that a life net is a last resort piece of equipment at a fire, and should only be placed in service when there is no other way to save the person trapped. The danger of the net is known to every fireman. It is no sure life saver. It is a spectacular appliance in the hands of trained personnel and even then causes the death or permanent injury of many a good fireman.

I believe hotels, apartments, factories, schools and hospitals equipped with supervised sprinkler systems will save more lives and not cause as many injuries, as a Fire Department equipped with life nets, pulling them for every rescue.

Every Fire Department should be trained to handle a life net, and to jump into them, but such training should be in view of its use (when there is no other way of saving a person).

Samuel J. Pope, Chief, Boston, Mass.: We have had a law in Massachusetts for some time which requires every Fire Department responding to a first alarm of fire to be equipped with a life net or jumping net strong enough to break the fall of a person jumping from the top story. Such apparatus shall be taken to every fire occurring in a building over two stories in height. The law further provides that the Chief shall see that a sufficient number of firemen are regularly practiced and trained in the proper handling and use of same.

I am strongly of the opinion that this is a good law, and while I have no alternative in the City of Boston due to this law, nevertheless, if it were not on the statute books, I would still insist on carrying a life net on our apparatus as standard equipment on both ladder trucks and pumpers.

I have had an experience in our department where an engine company responding early one morning to a dwelling house fire found the occupants standing on the window sill with the fire at their backs. The engine company had no alternative but to spread their net and save these people from serious injury.

I do believe every fire department training program should include evolutions of life net handling and jumping.

Surely firemen should be well trained in the proper handling of such equipment. As far as jumping in the training program is concerned, it gives the fireman a very practical knowledge of the value and limitations of a jumping net, as well as being a valuable means of testing the probationer's nerve and composure during probationary period.

While we, in Boston, consider a water line placed between the fire and the endangered persons the best life saver, and that a life net is almost the last resort, nevertheless, circumstances have taken place where the life net had to be the first piece of equipment brought into play. Thus like a lot of equipment, if used only once with success, its presence on fire apparatus is justified.

Lawrence E. Reif, Chief, New Haven, Conn.: I heartily agree that a life net should be part of the equipment of all trucks, and pumpers. We have never in my forty years' experience had to use a life net at a fire. However, it doesn't mean that we never will be called upon to use one.

HERE IS THE PROBLEM

The State of Massachusetts recently adopted legislation requiring, in short, that all motor apparatus purchased by municipalities of that state carry life nets.

Since there have recently been many tragedies involving loss of life at a hotel, apartment, factory, and other fires, do you agree with such plan, that is, that life nets should be included as standard equipment on both pumpers and ladder trucks?

Have you had any experience that would lead you to believe that such plan is sound, or unsound, and briefly, what are they?

Do you believe every Fire Department training program should include evolutions or life net handling and jumping?

We train our men at the drill school in the methods of holding the net as well as jumping into it.

E. F. Lester, Chief, Athens, Ga.: I believe all ladder trucks should carry life nets. Men should be trained to handle them by using a 175 pound dummy.

Jumping should be the last resort at any time as ninety per cent of the people who jump from a building over one story high are injured for life.

A. E. Homann, Chief, La Porte, Ind.: I believe enough life nets should be included in the equipment of the fire department to cover the needs of the city according to the number of experienced men to handle them.

I believe fire departments should include training in life net handling. Sandbags or dummies should be used for jumping to avoid accidents to the firemen.

A. McC. Marsh, Chief, Columbia, S. C.: I believe that a life net should be included as standard equipment on ladder trucks. I don't think that it is necessary on pumpers as they are now loaded with other equipment. I am of the opinion that ladder trucks equipped with life nets should be classed or used as first alarm machines so that if a life net is needed at a fire to save a life, it will be available. We have a life net on our service truck which responds to first alarm fires and also one on our aerial truck which responds to fires in certain territories, including the business district, schools, colleges and tall buildings.

While it is not a state law, the National Board of Fire Underwriters requires us to hold evolutions in life net handling and jumping.

S. T. Porter, Chief, Washington, D. C.: I believe for our own local needs, that it is not necessary to include life nets on both pumpers and ladder trucks. Life nets are standard equipment on each of our ladder trucks, and in view of the fact that one or two trucks respond on all single alarms, I feel that it would be unnecessary to equip our pumpers with them.

I do believe that every fire department training course should include evolutions of life net handling and jumping, jumping, of course, to be from very limited heights. Our own drill school includes this form of training.

Ambrose Saricks, Chief, Wilkes-Barre, Pa.: I do not believe that it is necessary for all apparatus of municipalities to carry life nets. In our own set-up for answering alarms, we have at least two trucks going into each location and all of our trucks carry life nets. This would be only necessary in cases where a small town had but one or two pieces of apparatus.

I believe the proper evolutions of life net handling and jumping should be included in the training program. Each year, starting the first of April and continuing through the month, our department conducts life net drills along with other evolutions. Each company conducts weekly drills at their own quarters of which a monthly report is sent to headquarters and filed with other records.

Thomas F. Cavanaugh, Chief, Waterbury, Conn.: We are somewhat in agreement with the legislation enacted in Massachusetts requiring all motor fire apparatus to carry life nets, although we feel it is somewhat of an encroachment upon the policy of home rule for cities and towns.

However, we recall an instance where the first apparatus lacked a life net and persons on a smoked covered balcony had to await the arrival of the truck before a net could be secured. It was only a minute or two, but it seemed hours to those looking on.

We believe the training should include life net handling, but only occasional jumping on the part of the firemen. The danger of injury is an element to be considered seriously by those in charge.

Frank Pulaski, Chief, Boise, Ida.: In thirty years' service in the fire department, I have had no occasion to use a life net. I do not think it necessary to include one on every pumper.

I do believe, however, that every man in the department should be drilled in the handling of a net and should also know how to jump.

E. A. Johnson, Chief, Boulder, Col.: We do not have a life net in our department.

I do believe, however, that they should be carried on apparatus (either pumpers or ladder trucks) that answer calls in the districts where hotels, apartments, schools, factories and other buildings three stories or over in height, are located. In the above class of buildings there is usually a large number of people involved and in many cases they cannot be reached with ladder equipment.

I do believe that every fire department training program should include evolutions on life net handling and jumping, but particularly in holding and handling the net.

William J. Lutz, Chief, Wilmington, Del.: I cannot agree with the plan of both pumper and ladder trucks carrying life nets. In communities where pumpers are the only apparatus available, it is undoubtedly a good plan.

The value of life nets need not be discussed. Speaking for Wilmington, all truck companies are equipped with nets and quadruples also. As is undoubtedly the procedure in all departments, careful check is kept on the districts requiring additional truck service and the possible need for life nets. The response on local, verbal and box alarms in the city takes a full quota of companies at all times (chimney, grass and auto fires excepted) with added truck service on alarms from hospitals, homes, schools, etc. In this connection, I believe it is unnecessary to have pumpers equipped with life nets.

Training programs most certainly should include drills in net evolutions and jumping. This training is included in our school and all companies take part.

Truck company and quadruple apparatus carry a total of five nets. Each truck company in addition to evolution and school training has ladder instruction each Sunday morning.

M. J. Corrigan, Fire Commissioner, Chicago, Ill.: The legislation recently enacted in Massachusetts, while basically sound, is nevertheless, in my opinion, a little far-reaching.

In Chicago, a life net, as standard equipment is immediately available on at least one piece of apparatus on every response, except alarms given as grass fires and automobile fires in the street. In other words, all hook and ladder companies and combination companies in Chicago are equipped with life nets.

I am firm in the belief that life nets should be available at all fires involving buildings, regardless of the height. Without knowledge to the contrary, I think we have somewhat of a record here in life net usage in that we have successfully effected rescues from seven and eight story heights.

I also believe that life net training, both handling and jumping, should be included in the curriculum of fire department training. These operations are included in our drill school and are practiced in company quarters. In our yearly Fire Department show, we demonstrate both the handling of and jumping into life nets before audiences of 80,000 persons.

John M. Slocum, Chief, Huntington Park, Calif.: I fully agree that more life nets should be carried on fire apparatus, although I don't feel that all apparatus should carry nets. There are so many districts and communities where there would be absolutely no need for a life net.

Any pumper, ladder truck or other apparatus covering schools, theatres, factories, hotels, apartments and downtown districts should carry sufficient life nets.

Some years back, while standing on the sidelines watching two six-story buildings burning, I had the experience of seeing a number of men and women jump from the windows into the street and on to telephone wires. While no one was killed, several were critically injured. It is my sincere belief that had that particular fire department been sufficiently equipped with life nets, there wouldn't have been any serious injury.

In the event that sufficiently trained men are not available, it is my opinion that one trained man and several bystanders could bring into service an extra life net to help save life in case of an emergency.

A. E. Cooke, Chief, Pomona, Calif.: Reviewing the past twenty-four years' experience in a city of 25,000 population, I do not feel that life nets are essential on all apparatus. I would be highly in favor of legislation requiring life nets on each squad or first alarm unit in each district and on all ladder trucks.

Making a close study of actual cases, I believe that it is desirable to have life nets and other rescue equipment on apparatus which arrives first at the scene of a fire. I admit that

HERE IS THE PROBLEM FOR THE NEXT ISSUE

What method do you employ for drying hose?

Have you found it entirely satisfactory?

If not, what change would you suggest?

the present general practice of carrying all life nets on slow moving ladder trucks is wrong, and I know that the majority of cities, large and small, do not have a sufficient number of nets available. The Massachusetts law, insofar as it concerns medium and large cities, availability of manpower and past experience, is overbalancing to the average department.

I am sure that every training program should include rescue work and jumping. Many years ago, Chief Ralph Scott of Los Angeles, allowed my officers and drillmaster to attend his splendid fire school and aided us in securing our first rescue equipment and life net. We, in turn, make this equipment available to the training of men in smaller cities which do not have life nets.

L. R. Morris, Chief, Ames, Ia.: I don't think it would be good policy to require all apparatus to carry life nets as some of the small departments would not have men enough to handle a net.

We have no net in our department, so I am not able to give advice on the use of the net, but with the fire escapes and the ladder equipment, it seems to me that nets are used very little and it is difficult to get people to jump.

Departments that have nets should use them in their training program.

P. E. DuPaul, Chief, Vancouver, Wash.: I believe the law requiring life nets on engine and truck companies is a benefit to the service and the public.

A great many cities and towns in the country have no ladder or aerial trucks and cannot rescue persons trapped above the second story. However, I believe that when ladder equipment is available, it should be used for rescue work, and the net used only as a last resort.

We carry a net on our truck, but luckily we have had no occasion to use it.

I believe that handling and jumping into nets should be part of every fireman's training.

Donald J. Rayburn, Chief, El Dorado, Kan.: In our city we have never had an occasion to use a life net. I do believe, however, that all firemen should have training in handling life nets and also in jumping.

H. J. Callahan, Chief, Fort Dodge, Ia.: Life nets are only a last resort when all other means of rescue have failed, and are effective only in the hands of skilled operators. I am afraid that with nets on every engine, other means of rescue would be neglected.

I do believe that every fire department training program should include evolutions on life net handling and jumping.

Irby Klinck, Chief, Memphis, Tenn.: I believe it is well to have both the pumpers and the ladder trucks equipped with life nets, carrying them as standard equipment. We can readily visualize the need for such where there are numerous tenement or apartment buildings covering large areas.

However, we have found no feasible way in which they may be carried on the pumpers so that they might be easily accessible. We do carry them on the ladder trucks, quarter-folded, in compartments which may be quickly reached for instant use when the occasion arises.

Every fire department should include the handling of life nets in their drill evolutions. We regard it as highly essential that both the truck and the pumper crews receive regular and systematic training with nets. But, we find it inadvisable to have men jump from any great height in training. We use dummies, throwing them from the windows of our drill tower to train the men in quick action with the nets.

Frank F. Trombley, Chief, Sault Ste. Marie, Mich.: It is my opinion that the life net should be standard equipment on pumper and ladder trucks.

I have not had an occasion to use a life net at any of our fires, but we carry one on our ladder truck as part of our equipment.

I do believe where fire departments carry on a training program and where they instruct their men in drill evolutions, it would be unwise not to train them in handling a life net and the proper way of jumping. We instruct our men in life net handling and jumping.

C. E. Harris, Chief, Akron, Ohio: There is hardly room enough on our pumpers to carry life nets, but I believe they should be carried.

I am in favor of having evolutions in life net handling and jumping included in the training program, but I do not believe firemen should jump over one story into the net while they are having evolutions.

Howard Travers, Chief, Baltimore, Md.: I believe nets should be carried on motor apparatus in rural communities. The plan is sound for rural districts, in view of the delay in waiting for hook and ladder trucks carrying such devices.

I believe training in handling life nets, and in jumping into them, should be included with the other drills and evolutions.

* * *

Answers to Previous Questions

The following reply was received in answer to a question on fighting brush fires:

Robert McGuire, Chief, Gary, Ind.: The chauffeur is charged with inspecting the battery every week. When a battery is found to register below 1225, he immediately charges it. We use Tungar bulb type chargers with good results.

George E. Jacobs, Chief, Canton, Ohio: We use two types of chargers, a motor driven generator and a bulb type. In our Central Station the mechanic checks all batteries three times weekly. In outlying stations the drivers take care of them.

We never have much trouble with batteries until they age. They are replaced when they become troublesome.

We have tried trickle chargers but discontinued their use as it was necessary to have them connected continuously.

We charge our batteries in position.

W. J. Noble, Chief, New Britain, Conn.: Each company is furnished with a Tungsten rectifier and must keep the batteries fully charged at all times. The batteries are left in position on the apparatus while they are being charged.

O. F. Romann, Chief, Cleveland Heights, Ohio: We use the General Electric Tungar battery charger with very satisfactory results.

All batteries are charged while in the trucks. In the floor at the rear of each truck position is a plug, and at the rear end of each truck there is also a plug. This makes a very short connection during the time the batteries are being charged. When leaving on a call, the connection is broken by the moving of the truck.

Alex W. Dotson, Chief, Elkhart, Ind.: We use Tungar rectifiers and have found them very satisfactory.

All batteries are charged on the apparatus. We have one rectifier at Headquarters that is stationary and takes care of from ten to twelve batteries. We also have one portable rectifier that is used at the sub stations.

James T. Sweeney, Chief, Superior, Wis.: We keep our motor apparatus batteries fully charged at all times with a Unitron Rectifier, six amperes. We use the plug-in type which does not require taking the battery off the apparatus.

W. R. Castimore, Fire Chief and Commissioner, Buffalo, N. Y.: Our batteries are given a hydrometer reading by the drivers every morning. If they are found to be lower than 1,250, a charger is put on.

We use the portable type Tungar or General Electric bulb rectifier, and find them to be very satisfactory.

Batteries are charged in position through the medium of a polarity plug attached to battery container.

Rufus A. Crittenden, Chief, Haverhill, Mass.: Every morning following the long day off, the operator of each piece of apparatus tests the battery and keeps a record of its condition.

We use the General Electric Tungar, three battery type charger, and have found it very satisfactory. Batteries are charged in position.

George W. Hissock, Chief, Port Huron, Mich.: We use trickle chargers (four amps. 110 V). Batteries are charged in position.

John Luxemboruger, Chief, Santa Ana, Cal.: We use the Hy-Eb. trickle charger, 10 volts, and keep the batteries up to 1225 hydrometer reading. Batteries are charged in position.

F. E. Campion, Chief, Fargo, N. D.: We use a battery charger to keep batteries fully charged. Batteries are charged in position.

George E. Smithers, Chief, Fond du Lac, Wis.: We use the Tungar type trickle charger and charge batteries in position.

I believe a generator regulator would take better care of charging batteries, but am told that none has been perfected as yet for twelve and eighteen-volt systems. Such a regulator works out very well on six-volt in cars.

G. A. Goodman, Chief, Muskogee, Okla.: We use a motor generator to keep batteries fully charged. Batteries are charged in position.

E. J. Ryan, Chief, Aurora, Ill.: We make a weekly check of all batteries. Tungar trickle chargers are used and the batteries charged in position.

Irby M. Klinck, Chief, Memphis, Tenn.: All stations are equipped with No. 6 ampere Tungar globe rectifiers. Batteries are charged in position.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Testing of Linen Hose

To the Editor:

Could you give me the following information about linen fire hose such as commonly used on standpipe hose reels (one-ply, unlined hose).

How often should this hose be tested?

Should it harden, when it dries, so that it is almost impossible to reel the hose up again? In cases where it does harden after being wet, what should be done to make it pliable again?

I would also like to know if you have any pamphlets or books on oil fires, especially in bulk storage plants which give information on the use of foam to extinguish such fires. I am particularly interested in the quantity of foam required to extinguish fires in various sized tanks containing petroleum products, and the pressure necessary to raise columns of foam through vertical standpipes in storage tanks.

K. E. McN.

Answer: Linen hose, if placed at a location where it is not exposed to moisture, requires no periodical tests. As a matter of fact, testing of linen hose shortens its life, for each time the hose is wetted, the fibers upon drying have lost some of their strength. While the loss may be very small, nevertheless should tests be conducted frequently, the total of such losses would be a serious factor.

If the hose dries very stiff after being wetted, it is possibly due to the use of mildew proofing treatment, or the hose may be built heavier and woven more tightly than usual. Nothing can be done to soften the hose after it has dried out.

With reference to pamphlets on oil fires, the International Association of Fire Chiefs has a committee working on the subject at the present time, and it is very likely that a book on the fire protection of oil industries will be forthcoming within the next few months.

Pumping Downhill

To the Editor:

We would appreciate it if you would solve this problem, and let us know if the following method is correct:

An engine is 200 feet away from an excavation, which is 100 feet deep. The pressure at the engine is 175 pounds. Three hundred feet of three-inch hose is laid, reaching the bottom of the excavation; a three-way gate connection is attached and three lines connected to same.

1 line of 2½-inch hose, 200 feet, with 1¼-inch nozzle.

1 line of 3-inch hose, 150 feet, with 1½-inch nozzle.

1 line of 2½-inch hose, 250 feet, with 1⅛-inch nozzle.

What is the nozzle pressure of each? What is the discharge from each nozzle?

First change stretch to single 2½-inch layout:

300 feet of three-inch = 300 ÷ 2.6 = 115 ft. 2½-inch hose.

150 feet of three-inch = 150 ÷ 2.6 = 57 ft. 2½-inch hose.

57 + 200 + 250 = 507 ÷ 3 = 169 feet of 2½-inch hose.

169 ÷ 7.75 = 22 ft. 2½ inches = 3 lines from three-way gate.

115 + 22 = 137 ft. 2½ inches = Total single layout.

Now composite nozzles:

$1\frac{1}{4} \times 1\frac{1}{4} = 1.56$

$1\frac{1}{2} \times 1\frac{1}{2} = 2.25$

$1\frac{1}{8} \times 1\frac{1}{8} = 1.26$

5.07

$\sqrt{5.07} = 2.24 = 2\frac{1}{4}$-inch nozzle

$$K = \frac{2\frac{1}{4} \times 2\frac{1}{4} \times 2\frac{1}{4} \times 2\frac{1}{4}}{10} = 2.56$$

N.P. = E.P. ÷ (1.1 + KL)

K = 2.56

KL = 2.56 × 2.74 = 7.01

1.1 + KL = 8.11

E.P. = 175 + (100 × .434)
= 175 + 43.4
= 218 pounds per square inch

$$\text{N.P.} = \frac{218}{8{:}11} = 26.88$$

or 27 pounds per square inch approximately.

Now, if 27 pounds is the nozzle pressure on the composite nozzle, it is also the nozzle pressure on the three nozzles.

Discharge of Line No. 1, with 1¼-inch nozzle:

Discharge = 30 D² × $\sqrt{27}$
= 20 × 1.56 × 5.19
= 243.36 gallons per minute

Discharge of Line No. 2, with 1½-inch nozzle:

Discharge = 30 D² × $\sqrt{27}$
= 30 × 2.25 × 5.19
= 350 gallons per minute

Discharge of Line No. 3, with 1⅛-inch nozzle:

Discharge = 30 D² × $\sqrt{27}$
= 30 × 1.26 × 5.19
= 196.18 gallons per minute

243.36 g.p.m.
350.00 g.p.m.
195.18 g.p.m.

789.54 g.p.m. Total discharge

Proof:

Discharge on composite nozzle:

Discharge = 30 D² × $\sqrt{P}$
= 30 × 5.06 × 5.19
= 788 gallons per minute.

This is assuming that if 27 pounds per square inch was the nozzle pressure on the composite nozzle; this 27 pounds per square inch was on all three nozzles, even though they are different sized tips, and different stretches. Or should it be worked as follows:

First find the discharge as before, which is 788 g.p.m.

Friction loss in 300 feet of three-inch hose, which equals 115 feet of 2½-inch hose.

Friction Loss per 100 ft.
= 2 × Q × Q + Q
= 2 × 7.88 × 7.88 + 7.88
= 2 × 62.09* + 7.88
= 124.18 + 7.88

Friction Loss per 100 ft.
= 132.06 pounds per sq. inch, approximately.

Friction loss per 115 ft.
= 132 × 1.15
= 151.80 pounds per sq. inch, approximately.

Subtract 151 pounds from the engine pressure of 218 pounds = 67 pounds per square inch engine pressure at three-way gate.

Now figure each individual line:

Line No. 1:

N.P. = 67 ÷ (1.1 + KL)
= 67 ÷ 2.092
N.P. = 32 pounds per square inch, approximately.

Discharge = 30 × 1.56 × $\sqrt{32}$
= 30 × 1.56 × 5.6
= 262 gallons per minute, approximately.

Line No. 2:

$= 67 \div (1.1 + .505 \times 1)$
$= 67 \div 1.605$
$= 41$ pounds per square inch, approximately.

Discharge $= 30\ D^2 \times \sqrt{41}$
$= 30 \times 1.56 \times 6.4$
$= 428$ gallons per minute, approximately.

Line No. 3:

N.P. $= 67 \div (1.1 + .167 \times 5)$
$= 68 \div 1.935$
$= 34$ pounds per square inch, approximately.

Discharge $= 30\ D^2 \times \sqrt{34}$
$= 30 \times 1.26 \times 5.8$
$= 428$ gallons per minute, approximately.

Note a difference of 115 gallons per minute.

We would appreciate it if you would tell us which is the proper way to work the problem stated.

J. W. W.

Answer: Your second solution of the problem involving a line of 3-inch hose branched into three lead lines is substantially correct, but the proof of discharge doesn't constitute "proof," for you compare the discharge from three different sized nozzles at 27 pounds pressure to the discharge of a nozzle equivalent in cross-section area to the three individual nozzles. Naturally the answers must be identical.

The solution as we have figured it out, for the problem is as follows:

First, average the lengths of the three lead lines, after making sure that each lead line is of the same diameter. The 150-foot line of 3-inch hose is equivalent to $150 \div 2.6 = 57.5$ feet of 2½-inch hose.

Average the three stretches: $57.5 + 250 + 200 = 507.5$.

$507.5 \div 3 = 169.2$, the average length of the three lines.

Next, combine the three lines into a single line of 2½-inch hose. The factor for converting three parallel lines of 2¼-inch hose to a single line of 2½-inch hose is 7.75.

$169.2 \div 7.75 = 21.8$ feet, or the length of single line 2½-inch hose equivalent to the three branched lines given in the problem.

Combine the three nozzles into a single nozzle.

$1\frac{1}{8} \times 1\frac{1}{8} = 1.2658$
$1\frac{1}{4} \times 1\frac{1}{4} = 1.5625$
$1\frac{1}{2} \times 1\frac{1}{2} = 2.25$
$1.2656 + 1.5625 + 2.25 = 5.0781$

The figure 5.0781 represents the square of some nozzle diameter. The nearest standard size nozzle to this figure would be a 2¼ inch nozzle, whose square would be 2.25×2.25, or 5.0625. Thus the three nozzles on the branched lines are equivalent approximately to a 2¼ inch nozzle.

Next, change the 300 foot line of 3-inch hose to a line of 2½-inch hose: $300 \div 2.6 = 115.4$ feet of 2½-inch hose.

Hence the entire layout from engine to nozzles is equivalent to a single line of 2½-inch hose $21.8 + 115.4 = 137.2$ feet in length and equipped with a single nozzle of 2¼ inches in diameter.

Now solve for nozzle pressure, after correcting engine pressure to take into account the 100-foot drop of the layout from the engine to the nozzle. The back pressure, which will help the engine pressure, is equivalent to $100 \times .434$, or 43.4 pounds.

As the engine generates 175 pounds pressure, and is aided by this back pressure, the total pressure available for overcoming friction loss in the line in giving nozzle pressure, is $175 + 43.4$, or 218.4 pounds.

Nozzle pressure
$=$ Engine pressure $\div (1.1 + KL)$
E. P. $= 218.4$ pounds
K, for 2¼-inch nozzle on 2½-inch hose, is 2.563
$L = 137.2 \div 50 = 2.744$
N.P. $= 218.4 \div (1.1 + 2.563 \times 2.744)$
$= 218.4 \div 8.133$
$= 26.85$

The discharge from the combined nozzles will then be:

$29.7 \times 2\frac{1}{4} \times 2\frac{1}{4} \times \sqrt{26.85}$
$= 29.7 \times 2.25 \times 2.25 \times 5.18$
$= 777$ gallons per minute approximately

The next step is to find the pressures at the individual nozzles on the lead lines. This can be done when the pressure at the wye connection is known.

Find the friction loss in the line from the engine to the wye connection:

Friction loss in 100 feet of 2½-inch carrying 777 gallons per minute $= 2 \times 7.77 \times 7.77 + 7.77$, or 128.5 pounds.

If the friction loss in 100 feet of 2½-inch hose is this figure, the friction loss from the engine to the wye connection will be 1.154×128.5, or 148.3 pounds approximately.

The pressure at the wye is $218.4 - 148.3$, or 70.1 pounds.

Using this figure, 70.1 pounds, as engine pressure, we solve for the nozzle pressure at each of the lead lines.

First lead line: 250 feet of 2½-inch hose with 1⅛-inch nozzle.
N. P. $= 70.1 \div (1.1 + .167 \times 5)$
$= 70.1 \div 1.935$
$= 36.2$ pounds per square inch

Second lead line: 200 feet of 2½-inch hose with 1¼-inch nozzle.
N. P. $= 70.1 \div (1.1 + .248 \times 4)$
$= 70.1 \div 2.092$
$= 33.5$ pounds nozzle pressure

Third lead line: 150 feet of 3-inch hose with 1½-inch nozzle.
N. P. $= 70.1 \div (1.1 + .192 \times 3)$
$= 70.1 \div 1.676$
$= 41.8$ pounds nozzle pressure.

Where the discharges of these three nozzles are computed and totalled, it will be found that the total of three lines would be greater than that from a single 2¼-inch nozzle. This error is brought about by averaging lines and approximations which result therefrom.

*The square of 7.88 should be 62.30 instead of 62.09. All calculations following should, therefore, be corrected accordingly.

Relay Engine Placement

To the Editor:

I would appreciate it if you would solve the following problem:

Two first-size pumping engines are to be placed in a 3,000-foot line of 2½-inch hose, and a 1⅛-inch nozzle is to be used. Fifty pounds pressure is wanted on the 1⅛-inch nozzle.

Where should the pumpers be placed, and how would you prove the flow and working pressure between first and second engines? P. J.

Answer: It is evident that the engines will be pumping at not less than 250 pounds pressure. Therefore, the stretch between the second engine and nozzle will be 4/5 of that between the first and second engine.

$9/5 = 3{,}000$ feet
$1/5 = 333\ 1/3$ feet
$4/5 = 4 \times 333\ 1/3$
$= 1{,}333\ 1/3$ feet

The nearest stretch to this would be 1,350 feet, as the hose comes in fifty-foot sections.

$5/5 = 5 \times 333\ 1/3$
$= 1{,}666\ 2/3$ feet

The nearest stretch to this would be 1,650 feet.

Thus the stretch from the first engine to the second engine would be 1,650 feet in length, and the stretch from the second engine to the nozzle would be 1,350 feet.

To prove this arrangement, first solve for the engine pressure on the second line:

E.P. $= 50 \times (1.1 + .167 \times 27)$
$= 50 \times 5.61$
$= 280$ pounds

The flow for the 1⅛-inch nozzle at fifty pounds nozzle pressure will be 265 gallons per minute.

The friction loss per hundred feet of 2½-inch hose carrying 265 gallons per minute

$= 2 \times 2.65 \times 2.65 + 2.65$
$= 16.695$, or 16.7 pounds.

The friction loss in 1,650 feet of hose will then be:

F.L. $= 16.5 \times 16.7 = 275.5$ pounds.

This is the pressure which alone is required to overcome the friction loss between the two engines.

Ten pounds additional should be allowed for inlet pressure to the second engine. This would make the pressure at the first engine 275.5 plus 10, or 285.5 pounds. The second engine is thus operating at 20 pounds less than the first engine, but this 20 pounds leeway is desirable in that it would be needed in the event that it were necessary to extend the line from the second pumper one or two sections.

Magnesium Fires

To the Editor:

How are magnesium fires handled? W. O.

Answer: For handling fires in finely divided magnesium, powdered talc is about the most effective medium. Other thoroughly dry materials, such as sand and clay, are also effective, but the danger with the latter is the presence of moisture which would disturb the fire very seriously.

North Andover Names Fire Officials

Two new fire officials were appointed to the North Andover, Mass., Board of Engineers at a recent meeting of the Board of Selectmen. Fred Garneau and W. T. Holland are the new members who will succeed Fire Chief James Hargreaves and Engineer L. J. Kane.

Mr. Garneau has been a member of the town department since 1910, and has been Captain for the past twenty-five years. He has lived in North Andover since 1890.

Among the Fire Fans

By Otis Smith

BOX 35, Minneapolis, held a steak fry on the St. Croix river near Alton, Minn., June 13. All but two of the members attended the gathering. There was swimming, riding, and fishing during the afternoon, with the fry at about eight in the evening. There was also an unexpected fire for the members. A nearby farm building caught fire and the Box 35 men did what they could to prevent spread of the blaze to exposures. There is no Fire Department in that locality.

Louis Rusche, a member of Box 35, passed away June 21. He was nineteen years old, and an ardent fire fan. His badge will be placed on the wall in the club and never reissued. This information from L. "Stub" Chrissinger, 2439 Colfax Ave. South, Minneapolis, Minn.

Having recently attended the Eastern Association of Fire Chiefs conference at Wilmington, Del., the writer can recommend these conventions to the buff who wishes to broaden his knowledge and contacts. Fire fans can also aid the regional associations and the International Association of Fire Chiefs by enrolling as Associates. Your dues will help the associations financially; your presence will help morale.

The June edition of the *Phoenician News* has been issued in abbreviated form, due to the rather jumbled life of the compilator during the summer months. Compilator Harold Taft is in San Francisco during the day, Kentfield at night, and Bass Lake during the months of July and August. He found time to list the 1940-41 budget of the San Francisco Fire Department. Fire Chief Brennan has asked the Mayor's office for $219,830. The Mayor has recommended the figure of $105,013 to the Board of Supervisors for their approval. Fire fans may contact the Phoenix Society through Al Fryer, 7 Front St., San Francisco, Cal.

Thanks to Ed Sprangers for the pictures of those Philadelphia fires. We also note that Philadelphia is to receive some twenty pieces of new apparatus, including thirteen pumpers and seven aerials . . . another fan in Philadelphia is John L. Freas, 600 Rhawn St., Fox Chase, Phila., Pa. Also received from Ed Sprangers was a picture of the new Seagrave pumper purchased by Rockledge, Pa. Mr. Sprangers may be reached at his home address: 2228 W. Oakdale St., Philadelphia, Pa.

The Fire Bell Club, 119 W. 33rd St., Manhattan, holds open house nightly from 7 to 11. Membership in the club has been limited to fifty, and this quota is now full. A large waiting list is ready to fill any gaps in the active membership.

During the past month there have been comparatively few multiple alarms in New York city. Consequently the club activity at fires has been quite limited. As an added interest, arrangements have been made for one evening of entertainment each month. Qualified speakers will address the Club on various subjects referring to Fire Department activities. Thanks to Secretary Paul Andreys for the above.

Though a 1939 publication, the book Fighting Fire, is worthy of mention at this time. The book has an appeal to both juveniles and adults, presenting as it does, an authentic picture of the New York Fire Department. It delves into every phase of the department and also presents more than thirty color photographs of the department. It is published by E. P. Dutton, 300 Fourth Ave., New York, price $2.

George B. "Smoky" Hill of Dearborn is to be seen at every multiple alarm with Lawrence Pegler, son of the retired Battalion Chief. George is a member of the Dearborn (Mich.) Police Department. He designed and manned the first rescue car that they had, and we understand that he was the crew until it was taken over by the Fire Department. If anyone wants to see how a real fire fan works, they should visit George's garage where he has a complete watch desk with all the signal bells in operation. George also makes many presentation helmet fronts for his friends in many parts of the country.

Clarence Woodard and Ed Denison, members of the Signal Club of Detroit, had quite a time last month with four multiple alarms within two blocks of Denison's back yard. Ed Denison lives at 7862 Melrose Ave., Detroit. . . . Wm. "Scrappy" Patterson, chief fire fan of Pittsburgh, has recently completed the graduation diplomas for the Police Dept. class of 1940. On his own time, he is also compiling a history of the Pittsburgh Fire Department.

From Vincent Bolger of the Boston Sparks, comes a copy of the program of the memorial services held for Boston firemen. Organizations taking part in the services included the Veteran Firemen's Association, Charitable Association, and the Boston Fire and Protective Departments. The groups went to the Firemen's Lot in Forest Hills Cemetery, where they placed decorations on the graves.

Information on fire fan attendance at the New England Chiefs Convention reached this column too late for the current issue. The writer expects to hear more about this from Vincent Bolger and Gordon Mullins for inclusion in the August issue.

A youthful group of sparks, the Mystic Sparks Club, Medford, Mass., is reported to be coming along nicely. The members make frequent tours to points of interest, including alarm offices and apparatus plants. At a recent election the following officers were chosen for 1940: Robert Meagher, Chief; Edward W. Woodbridge, Secretary; Emmons E. Douglass, Treasurer. The club may be reached through Mr. Douglass at 33 Walnut St., Medford, Mass.

School Fire Drills Profitable

When a fire broke out in the roof of the Letsche Elementary School in Pittsburgh, Pa., the school alarm was sounded and 567 children evacuated the building in perfect order. They had taken part in so many routine fire drills in the past, the children this time believed that they were just going through another drill. The building was emptied in less than three minutes without trouble.

Seventh grade children discovered the fire and notified the teacher, who in turn informed the janitor and principal. The alarm sounded and the children left.

Fourteen trucks answered the alarm and fought the fire with ten hose lines. The roof, covered with slate, was almost completely destroyed with $20,000 damage, estimated by Chief N. A. Phelan, who said he believed the cause of the fire to be defective wiring.

The Extent of the Damage Caused by the Roof Fire at the Letsche School

ERA WHEN FIRES WERE FOUGHT BY INSURANCE COMPANIES' MEN

Insurer Established Fire Companies to Protect Property of Those Displaying Proper Fire Mark or Insignia

By Clarence E. Meek

WHILE the practice of insurance companies organizing fire brigades or fire-fighting companies of their own originated in England and was never followed in this country, the early history of fire extinguishment by organized units is closely associated with the history of the development of underwriting institutions.

In the early days of fire insurance, the companies customarily issued to their insurers a "fire-mark" or plate, which was attached to the exterior of the premises entitled to receive the attention of the particular company issuing the mark. In his "Chat About Fire-Marks," Percy Collins explains their origin in this way:

> "The fire-mark was invented and used as a guide to the brigade. If, in the event of a fire, a brigade arriving on the scene found it was not their office that insured the risk, and that no surrounding property in which they were interested. seemed to be in danger, they went home again."

In fact, it seems that fire brigades were formed for two objects: first, as an inducement to people to insure because of its protection, and secondly, to enable the insurance company to save as much of the property insured with it as possible.

Definite Territory

It was, therefore, quite reasonable for the firemen employed by one firm to assume an air of detachment while the firemen employed by a rival office were busily fighting the flames. This did not mean, necessarily, that they would retire from the scene, because there was always the danger of a fire spreading, and it might be their duty to see that some house nearby was not involved.

Although each parish was supposed by law to maintain engines, very few of them made any real effort to do so, and the duty of dealing with fires fell, in consequence, upon those whose property was at risk. As the insurance companies had the chief interest in safeguarding property, these corporations were most energetic in the formation of fire brigades.

An old-time writer, describing ingenious methods of insurance offices, says:

> "They have many servants in livery and badges, who are watermen, and other lusty persons dwelling in several parts of the city, who are always to be ready when any sudden fire happens, which they are very laborious and dexterous in quenching."

That these firemen were men of some position is indicated by the fact that some of the old prospectuses of the insurance companies print the names of the men comprising the fire brigade opposite the names of the directors of the company. Also, it was evidently a matter of some honor and dignity to be permitted to perform fire duty, as is evidenced by this excerpt from the minutes of The Eagle Insurance Company:

> "William Darley, late Engineer to the Albion Life & Fire Company, represented to this committee that in consequence of his application to be one of the firemen of this company, he had been degraded from the office of Engineer to that of an extra man, and this committee having examined into the circumstances do recommend him to be added to the firemen of the company but without the privilege of attending fires until the order of the board."

Life of a Fireman

It would seem that there were "joy rides" then as now. Now and again the fancy of the fire-fighter must have lightly turned toward the engine reposing idly in its house, for we find this resolution on the minutes:

> "December 3, 1808. That the Engine belonging to this Company be not taken out by the Firemen until it shall be ascertained that there is actually a fire, and that its attendance shall be necessary for assisting extinguishing the same."

In a parody on Scott's "Marmion" published about 1809 the authors gave what is believed to be a very correct account of the action of the fire brigades as they existed at this period:

The summon'd firemen woke at call,
And hied them to their stations all;
Starting from short and broken snooze,
Each sought his pond'rous hobnail'd shoes;
But first his worsted hosen plied,
Plush breeches next, in crimson dyed,
His nether bulk embraced;
Then jacket thick, of red or blue
Whose massy shoulders gave to view
The badge of each respective crew,
In tin or copper traced.

The engines thunder'd thro the street,
Fire-hook, pipe, bucket all complete;
And torches glared, and clattering feet
Along the pavement paced.

E'en Higginbottom now was posed
For sadder sight was ne'er disclosed;
Without, within, in hideous show,
Devouring flames resistless glow,
And blazing rafters downward go,
And never halloo "Heads below"
Nor notice give at all.

The firemen, terrified, are slow
To bid the pumping torrent flow,
For fear the roof should fall.
Back, Robbins, back! Crump, stand aloof!
Whitford, keep near the walls!
Huggins, regard your own behoof,
For lo! the blazing, rocking roof
Down, down in thunder falls!

Meanwhile, the Muggins fought amain,
And strove and struggled all in vain,
For, rallying but to fall again,
He tottered, sank and died!

Did none attempt, before he fell,
To succor one they loved so well?
Yes, Higginbottom did aspire
(His fireman's soul was all on fire)
His brother Chief to save;
But ah! his reckless generous ire
Served but to share his grave!

Still o'er his head, while Fate he braved,
His whizzing water-pipe he waved;
"Whitford and Mitford, ply your pumps--
You, Clutterbuck, come, stir your stumps,
Why are you in such doleful dumps?
A fireman, and afeared of bumps!
What are they fear'd on?
Fools! 'od rot em."
Were the last words of Higginbottom.

Chief Ralph Williams Recuperating

W. Ralph Williams, Chief of the Fresno, Cal., Fire Department, and Second Vice-President of the International Association of Fire Chiefs, is recuperating from an operation which involved the removal of a surplus rib. He had been under medical care for about a month before the cause of trouble was discovered. Since the removal of the extra rib, his recovery has been rapid.

First Junior Firemen's Brigade Organized

Over 200 high and grade school boys, from the ages of ten to seventeen, have been enrolled in the Junior Firemen's Brigade of America, in Santa Monica, Cal. The Santa Monica Brigade No. 1 has been inaugurated.

A number of fire equipment concerns in the country have sent us equipment to be used in the instruction and training of boys in fire prevention measures. We have on hand an E. & J. Resuscitator, Indian Fire Pumps, two types of Sirens, shut-off nozzles, fourteen feet of aluminum ladders. We have coming a hydrant, and four-foot sections of fire hose to be used for training purposes. We will soon have a small patrol truck to carry the equipment. Many business men have endorsed the proposition, and in a few days we will have the badges and uniform caps. On June 28 we held a Fire Spectacle Parada, and on June 29 a Junior Firemen's Tournament.

ARTHUR B. HICKOX
National Chief

Chief Shaw Is Reinstated

Charges against Chief Stanley Shaw of Newark, Ohio, have been withdrawn and he has been reinstated to his old position as Chief. This action ends a two-month old controversy in which an attempt was made to oust Shaw who has been Chief for over twenty years.

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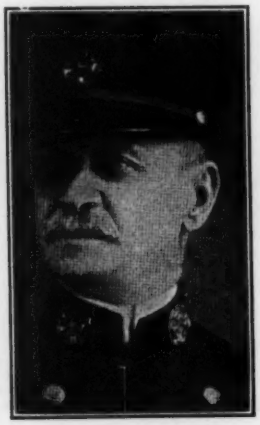

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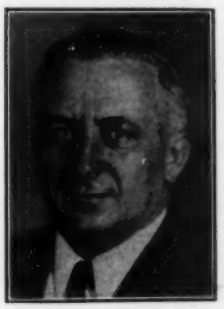

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H. O. R. Company

FRED A. WATEROUS
Sales Manager
Waterous Co.

EDWARD CAIRNS
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Cairns & Brother

WILLIAM MOELLER
Superior Fire Equipment Co.

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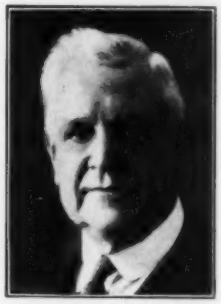
Eureka Fire Hose Div.
U. S. Rubber Co.

ALBERT E. HANSEN
President
Elkhart Brass Mfg. Co.

J. H. RINGERS
Sales Manager
Fabric Fire Hose Co.



W. T. COLE
President
Fabric Fire Hose Co.

DICK CORNELL
Pacific Coast Rep.
Fire Engine Div.
Mack Mfg. Co.

F. W. BEARDSLEE
Sales Manager
Fire Engine Div.
Mack Mfg. Co.

M. A. LARSEN
District Manager, Seattle
Fire Engine Div.
Mack Mfg. Co.

ARTHUR MYERS
Director of Sales
Atlas Fire Equipment Co.

S. H. CARBIS
President
Aluminum Ladder Co.

J. B. DAVIES
Mgr. Industrial Dept.
Mine Safety Appliances Co.

J. T. RYAN
Pres. & Gen. Mgr.
Mine Safety Appliances Co.

GEO. L. SETH
Asst. Mgr. Ind. Dept.
Mine Safety Appliances Co.

G. E. BRADBROOK
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C. G. Braxmar Company

JOHN O. VEIT
Vice-President
C. G. Braxmar Company

E. L. WHEELER
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F. H. Wheeler Mfg. Co.

H. P. SCHULTZ
Sales Manager
Republic Rubber Co.

FIRE EQUIPMENT MANUFACTURERS AND REPRESENTATIVES

PROMOTIONAL STUDY COURSE

Herein is presented a series of definitions, questions and answers designed to aid fire department officers in preparing themselves for promotional examinations. In this department, which appears monthly, will be included questions typical of examinations held throughout the country.

Below are answers to the questions appearing in the June issue of this journal:

1. Hazards incidental to cellar and sub-cellar fires are: Lack of ventilation, and dangerous atmospheric conditions resulting therefrom; large quantities of combustible materials ranging from coal to junk; possibility of men being overcome or trapped due to limited means of egress; presence of many vertical ducts through which fire may rise to upper floors; presence of gas meters and gas pipes, and electrical equipment.
2. Fire starting in cellars involve the cellar and then extend through vertical channels to upper parts of building.
3. Cover all vertical exposures on the ground floor, including elevator shafts, stairwells, pipe ducts and other channels through which fire may rise.
4. By opening doors at front and rear leading to cellar; opening deadlights over cellar wells; opening windows leading to lightwells front and rear; opening floor over cellar; opening inside door leading to cellar.
5. Jute, wool and cotton, of which jute is the most dangerous.
6. Heavy fumes thrown off by jute and chemicals; possibility of floor collapse due to absorption of water by stock.
7. Because of large open areas, concealed spaces and inflammable construction.
8. Large streams are more effective.
9. Toilet articles, handles for table cutlery, photographic film.
10. Because celluloid will continue to decompose in the absence of air, throwing off explosive, poisonous fumes; intense heat of combustion; extreme rapidity of combustion.
11. Hazard incidental to extremely poisonous fumes generated by decomposition of celluloid.
12. Yes, when mixed with air.
13. Water.
14. Foam, carbon dioxide and carbon tetrachloride extinguishers.
15. Avoid breaking of plate glass windows.
16. Yes.
17. Calcium carbide.
18. Yes, it is good practice.
19. Yes.
20. Due to the presence of powdered coal on ledges or rafters which may be dislodged during the course of the fire.
21. First find back-pressure. The tenth floor is nine stories above the street or $9 \times 12 = 108$ feet.
    Back pressure per foot $= 0.434$ #.
    Back pressure for 108 feet $= 108 \times .434 = 46.872$ #, or 46.9 # approximately.
    Subtract this back pressure from the available engine pressure:
    $150 - 46.9 = 103.1$ # remaining to overcome friction in hose and give nozzle pressure.
    N. P. = E. P. $\div$ (1.1 + KL). K = 0.248. L = $500 \div 50 = 10$.
    Then N. P. = $103.1 \div (1.1 + .248 \times 10)$.
    $= 103.1 \div (1.1 + 2.48)$.
    $= 103.1 \div 3.58 = 28.8$ #
    or 29 #.
22. Wet pipe systems and dry pipe systems.
23. Wet pipe system is always charged with water which fills the pipe right up to the sprinkler head; the pipes in the dry pipe system are filled with air under pressure which, upon being released by the opening of the sprinkler head, operates a dry valve which turns the water under pressure into the sprinkler piping.
24. First, that in which the detectors operate at predetermined temperatures; second, that in which the detectors are operated by the rate of change of temperature.
25. By "interfering fire alarm boxes" is meant boxes of such design that the pulling of a second box on the same circuit before the first has completed its rounds may cause a partial or complete loss of the signal.
26. "Non-interfering boxes" are boxes of such design that the pulling of two or more boxes on the same circuit does not interfere with the clear and complete sending of each box in the order pulled.
27. No.
28. Because of the danger of freezing.
29. Twenty-four inches.
30. So that the fire department may keep the systems supplied with water at proper pressure during the course of a fire.
31. Wet pipe sprinkler system.
32. Lack of gasoline; water in gas tank; dirt in carburetor or feed line; disconnected switch wires.
33. Dirty spark plugs; improper carburetor adjustment; valve stuck; valve broken; water in gasoline.
34. Gasoline mixture too rich; gasoline mixture too lean; water in gasoline; lack of ignition current; battery run down.
35. Spark advanced too far; improper carburetor adjustment; carbon in cylinders; engine speed too low; loose piston.
36. Lack of proper lubrication; poor quality of oil; oil pump not working; inefficient water circulation; circulating pump inoperative.
37. Spark plug loose; spark plug broken; valve caps loose; priming cock open.
38. Faulty needle valve adjustment; dirt in gasoline passage; air leak in intake manifold; water in gasoline; flooded carburetor.
39. Yes.
40. Sharp turn should be made.
41. Have the truck always under control.
42. Ammonia is lighter than air; carbon monoxide (pure) is lighter than air.
43. In welding shops and auto service stations.
44. Yes.
45. Yes, if mixed with air within narrow limits.
46. Because of the danger of asphyxia to the men exposed to it.
47. In refrigerating plants, ice factories and in fact those industries in which low temperatures are necessary.
48. No.
49. It extinguishes the fire when present in the air in proportions of twenty-five per cent, by volume.
50. Because it is a highly poisonous gas.
51. Keep to the windward side of the leak. If water is available, use it freely on the escaping liquid. This forms chlorine hydrate instantly, from which the evaporation of gas is slow. If water is not available, dig a trench to draw off the liquid to a lower spot. The pool formed can then be treated later with water. Loose earth should be thrown on the liquid at once to retard evaporation. If tanks are punctured above the liquid, only gas will escape, and this will cool off the contents so that leakage will be slow. If leakage is below the liquid level, it will continue until top of liquid reaches the opening and then slow down to a gas leakage.

Fireworks Regulations Invalid

Regulations to safeguard the use of fireworks in Maryland have been declared invalid. A judge issued a permanent injunction against the State Insurance Commissioner restraining him from enforcing rules restricting the sale and use of fireworks.

The Commissioner, John B. Gontrum, then issued a statement warning the public that many of the fireworks being produced by the manufacturers who obtained the injunction are, according to the manufacturers' own statements, "most dangerous to life, sight, and limb."

The manufacturers were represented by Leonard Weinberg, Harry J. Green and George Dowell. These men argued that Mr. Gontrum had neither the power to promulgate the regulations nor the authority to enforce them. William C. Walsh, Attorney General of Maryland, who represented the Commissioner, admitted the truth of their contention.

OTIS SMITH

Fire Fighters Name Leaders

At a recent meeting of the Iowa Association of Fire Fighters, in Des Moines, Ia., L. C. Sternberg, Davenport, Ia., was elected President to succeed M. C. Thompson.

Other officers chosen were George Krafka, Ottumwa; P. M. Philpott, Burlington, and Fred Christensen, Council Bluffs, Vice-Presidents; William Hottel, Des Moines, Secretary-Treasurer; and Earl Minkel, Waterloo, Milton Jaeger, Dubuque, and Bayard J. Lodden, Ames, Trustees.

The Association chose Waterloo for its 1941 convention.

FIREMAN KILLED BY WALL AT BALTIMORE GRAIN FIRE

City Suffers from Chain of Serious Fires—Four Firemen Thrown into Fire when Ladder Snapped

By Otis Smith

FOUR firemen were hurled into a blaze when an aerial ladder snapped at a Baltimore fire. One of the firemen died a few hours later as a result of his injuries. The men were loosening lines from the ladder when the building collapsed, dragging the ladder with it. rowly missing Truck 1. The tractor and running boards were damaged. Truck 1 was built recently by the department and is valued at $18,000. The wrecked aerial ladder of Truck 6 was valued at $2,500. Various smaller ladders were also lost in the collapse of the building.

Fighting the Grain Fire at Baltimore Where Fireman Lost His Life

The fire was at the Fredk. Obrecht & Sons Feed Company, in downtown Baltimore. Fire was first seen in the third floor front of the four-story brick building. No. 15 Engine responded to a telephone call at 3:51 a. m. Lieut. John M. Murphy pulled the first alarm at 3:55 a. m. Fire extended to the fourth floor, mushroomed, and dropped to the cellar. Three additional alarms were sounded at short intervals.

Crew Ordered to Safety

Acting Chief George Otter noticed smoke seeping from the walls a few hours after the first alarm. He immediately ordered all lines down. The crew of Truck 13 got their aerial down safely. Four men of Truck 6 were working to free their lines when the rear half of the building crumbled. The 85-foot wood ladder whipped violently, then snapped and fell with the mass of brick and bagged grain. The men were promptly removed from the wreckage and taken to hospitals. Firemen Herman E. Jackson suffered fractures and internal injuries and later died. The other three firemen were treated for fractures and severe burns.

The rear wall of the building fell, nar-

Seventeen engines, six trucks, two hose, one tower, five Battalion Chiefs, and a Deputy responded to this fire. Official estimate of water used is 2,116,675 gallons. Recall signal was sounded at 12:29 p. m.

Less than twenty-four hours before this fire, an eight-alarm blaze damaged a furniture store and warehouse in a nearby neighborhood. This blaze, in the Four Besche Bros.' store, is reported to have caused about $100,000 damage. The entire crew of Engine 6 was trapped on the roof of the furniture store and had to jump to save their lives.

Another Serious Fire

The chain of serious fires in Baltimore, Md., was continued by a seven-alarm fire. This fire burned out three floors of a general merchandise firm, only four blocks from the scene of the Obrecht grain fire, where one fireman lost his life a few days earlier.

First alarm came over the automatic system at 6:17 p. m. for the Fisher Novelty Co., Hopkins Place. Seven alarms were sounded from city boxes in rapid succession. Forty-four fire companies responded to the calls. The seventh alarm was sounded when the fire communicated to an adjoining building.

First reports placed the fire damage at $100,000. The building was insured for $40,000, and stock, amounting to $100,000, was only partly covered.

Making Work for Themselves

In Violetville, Md., fireworks are being sold in a gasoline service station which

A Used-To-Be Fire Company of the Violetville Volunteer Fire Department

The fireworks are being sold in the gasoline station just on the other side of this building by firemen.

is operated by members of the Violetville Volunteer Fire Department.

State Insurance Commissioner John Gontrum has been requesting that all Volunteer Fire Companies cooperate with him in abating the fireworks nuisance.

WHAT'S BURNING

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of June, 1940. These figures, compiled from the telegraphic reports, are based on estimates made at the time, and are subject to later investigations and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Month Ending June 30	Loss in Thousands of Dollars
Chicago, Ill.—Upper floors of Mayflower Apartments	50
Staunton, Va.—Warehouse owned by Gibson estate damaged	60
Montague, Mich.—Cherokee Lodge on White Lake, owned by R. A. Fyfe	55
Springfield, Ill.—W. T. Grant store and adj. property	80
Lawton, Mich.—Houppert Winery plant damaged	125
Owen Sound, Ont.—Warehouse of National Grovers, Ltd., destroyed	65
Chicago, Ill.—Warehouse of United Brewing Co., damaged	65
Fall River, Mass.—Maplewood Specialty Mills destroyed	80
Lyndonville, Vt.—Business property damaged	50
Fair Lawn, N. J.—The Kimball Press and Fair Lawn Press, damaged	125
Edmonton, Alta.—Whse, property of Marchall Well Alberta Co. Ltd.	80
Martinsville, Ind.—Factory of Davis Cooperate Co., destroyed	50

Willows, Cal.—Whse. of Zumwalt Implement Co. and garage of U. S. Forest Service.. 75
Milton, Utah—Plant of Utah Wool Pulling Co., destroyed..... 65
Pana, Ill.—Topping unit of the Pana Refining Co., plant destroyed..... 250
Alturas, Cal.—Moulding factory destroyed.. 80
Niles, Ohio—Silica brick div. of Niles Fire Brick Co..... 50
Tieton, Wash.—Two whses., apartment and adj. property..... 275
Morehead, Ky.—Caskey garage, together with cars and school buses..... 60

Rescuers Rewarded

Cute little fellows aren't they? And there's quite a story behind their presence at Fire Headquarters, Bridgeport, Conn. A still alarm was received recently and a Chemical Company responded to the East Washington Avenue bridge where firemen found their help was wanted in rescuing a female dog from drowning in a pit beneath the bridge.

Fireman August Gottschalk climbed down, rescued the bewildered dog, found no claimants for the mongrel and toted her back to the fire station aboard the apparatus. There, as if to reward her rescuers, the animal gave birth less than an hour later to a litter of six healthy puppies. She's become so attached to the firemen that she'll fight with all her vigor to protect them against intruders not in uniform.

The firemen now have a big family to feed—but they'll probably find good homes for the pups. As for the Mama dog, who answers to the name of "Nellie," they haven't decided what will become of her.

THOMAS F. MAGNER

Nellie Presents Firemen With a Family Problem

Chief Phelan Cites Needs

In view of the increase in total fire loss in Pittsburgh, Pa., for 1939 over 1937 or 1938, Chief N. A. Phelan reminded the city administration in his annual report of the need of apparatus replacement and the need of a Fire Prevention Bureau. He pointed out the need for building inspection and investigation of fires because of the danger of sabotage growing out of the war. Repairs to several fire stations were also included.

WAR FARE

Alarms and Discussions Clipped and Culled From the War News of the Day, of Interest to the Fire Service.

Roi B. Woolley

Live Air-Raid Sirens

Washington Park Zoo, Milwaukee, Wis., has two live air-raid sirens. Un huh, no foolin'. They're crested screamers, from Brazil, who screech to high heaven at drone of any airplane. Director Ernest Untermann sez they could hear drone of a plane motor ten miles away and claims their piercing cry carries one to two miles. For families who prefer their own air-raid alarms and can't afford these Brazilian screamers, the director suggest guinea hens. "They're almost as smart," sezze.

As for us, we'll stick to Gamewell or Federal, but just for fun we're experimenting with a wild loon up in Maine right now.

July 4 Ban Urged for Patriotism

The National Society for the Prevention of Blindness advocates as a patriotic duty abandonment of the custom of using fireworks and other explosives for Fourth of July celebrations. Claims disuse of fireworks would prevent deaths, blindness and minor injuries and that it would stop needless waste of powder and other explosives.

"In view of serious problems created by the war in Europe," it says, "it would be far greater service to our country if the money that is usually spent by individuals on firecrackers, skyrockets, Roman candles and other fireworks were used for more practical purposes." Mebbe they've got something there.

Short Waves

New York City firemen, through Commissioner John J. McElligott, allocated $2,300 to American Red Cross out of a fund of $5,000 collected by the Brothers. . . . Fire high pressure streams were used in Mexico City to break up a riot between law students, favoring presidential candidacy of Gen. Juan Andrew Almazon and members of Juventudes Socialistas. . . . In London, housewives receive instructions in climbing out of second story windows in case of fire. "It's part of a course of training for combating incendiary bombs in effort to foil Nazi raids. . . . Sabotage was given as cause of the attempted sinking of old batleship Oregon at Portland (Ore.) when seacocks were opened. . . . Police of Bayonne N. J., are investigating finding of water-soaked box containing 25 pounds of dynamite beside Pier 8 of the Standard Oil Co. of N. J. at Constable Hook on Kill Van Kull (where oil tankers are loaded). . . . A blaze in Hingham, Mass., powder bag plant at U. S. Navy's ammunition depot caused more fright than damage—cause "not given." . . . **Chiefs will do well to redouble their inspections of all contracting jobs where dynamite or other explosives are used.** It is reported that "thefts" of explosives are becoming more numerous. . . . armories in New York State are under extra guard. . . . Fire started, it is said, by lightning, threatened to destroy six large wooden buildings in heart of Tokio, Japan, despite efforts of hundreds of firemen.

Is This Good Practice?

The War Emergency Committee of the International Association of Fire Chiefs is concerned over present practice of the government and/or local manufacturers, releasing information to publishers on war orders. Scarcely a day but what papers print names of concern receiving such contracts, the amount of orders, and the description of materials or equipment ordered. Committee members belive this a deliberate "invitation" to crackpots and saboteurs to start their "dirty work." Should this be stopped?

Is There a Lesson in This Tragedy?

The average citizen is inclined to poo pooh the idea that this country is in danger from enemy bombing, even if we ever get into a war—which God grant we won't. But that citizen (and not a few Chiefs) are plumb overlooking the fact that even if we don't go to war, the huge defense program, with its increase in aerial traffic, is multiplying fire hazards and threatens the fire service with more fires and more tragic fires.

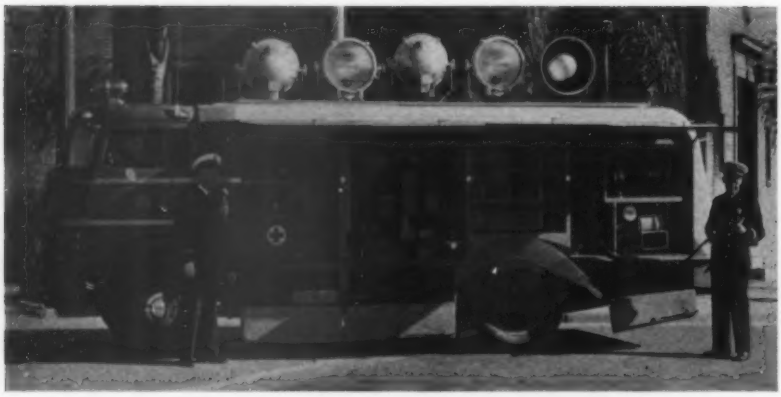
Witness the tragic episode of June 17 in the Bellerose Manor section of Queens County, New York City, when two U. S. Army bombers from Mitchell Field collided in the air, burst into flames and crashed to earth, killing 11 officers and enlisted men, causing death to a woman, and setting fire to seven one-family dwellings—three in one street and four in another, around the corner.

Batt. Chief Peter Costello and members of his command in the 54th Battalion, N. Y. F. D. had a big job on their hands, and handled task with dispatch—but it was a great lesson on what may happen in any American community.

(*Continued on page* 370)

ENCLOSED TYPE RESCUE UNIT IN SERVICE AT PASADENA, CAL.

Car Has Two-Way Radio System, and a Public Address System—Index System for Checking Men as They Report



Uncovered Compartments Showing Equipment Contained Therein

The lights, speaker and flasher light are in the raised position. There are a similar set of compartments on the other side of the truck containing equipment in addition to what is shown here.

DURING the latter part of last year, the Pasadena, Cal., Fire Department placed into service a new rescue unit. A cab-over-engine type, three-ton chassis was used with an oversized engine and a two-speed rear axle, giving eight forward gear ratios. This machine carries 148 separate pieces of equipment, some of which are new and novel to Fire Department practice.

Two Lighting Plants

Two 2½-kw Kohler light plants provide electricity for four 750-watt flood lights, one 750-watt spot light, and two 200-watt portable inside lights. Four reels, carrying 300 feet of cable are used for the two portable inside lights when it is necessary to provide light in alleys where it is impossible to place the machine.

Two way radio equipment is carried in the cab. The public address system is a directional system, with a range of one half mile. The microphone can be used at any point up to fifty feet from the machine. The lights and horn are carried on hydraulic jacks in fore and aft tunnel, and they can be raised above the machine by a ½-hp. electric motor geared to a hydraulic pump. A lighthouse, flasher-type red light, is raised above the other equipment hydraulically on arriving at fires to direct off shift men to this unit.

Large Size Batteries

Duplicate oversized batteries are installed in a lead lined compartment on rollers, which can be conveniently drawn out for servicing. Charging plugs are installed so the batteries can be charged from the outside without moving battery compartments. An ingenious switching arrangement is installed in the cab, which permits either battery to be used on radio or engine electrical equipment, or both batteries can be switched together.

Time Cards for Men

Located near the operating compartment is a time stamp and "A" and "B" shift Kardex cards for each man in the department. As off-shift men report they are checked in and out by the unit operator. The time stamp records the exact time, and the cards are then a permanent record of their arrival and departure.

This machine responds to all regular fires and, in addition to carrying all types of rescue equipment, will be used as a communication and contact point for the giving and receiving orders.

The Streamlined Unit in the Closed Position with All Equipment

Firemen Form Fortune Club

An organization has been formed in Rochester, N. Y., and is known as the Fortune Club. It is composed of a group of about 200 firemen who passed the last examination for the Fire Department, and they continue their membership after they are appointed. They meet once a month and hold dances and other events. They have a speaker for each meeting.

The speaker at the last meeting was Tom McCarthy, well known figure in Rochester, who spoke on the need for study, and also touched on simplified hydraulics.

Hobart Strathearn Promoted

Hobart Strathearn, who up until recently was a Captain of the Paterson, N. J., Fire Department, was elevated to the post of Battalion Chief to succeed the former Battalion Chief Charles Nolan, retired.

Strathearn was born in Paterson in 1899. When the United States entered the World War, he volunteered, seeing twenty-nine months in service. Upon his return home, Strathearn entered the employ of the Public Service Gas and Electric Company in Passaic. He remained with the company until his appointment as a fireman in 1922.

In 1930 he was promoted to Captain. He finished first on the list for Battalion Chief in 1938.

Strathearn is a member of the Firemen's Mutual Benevolent Association, The Firemen's Burial Association, and has been an advisory board member of the Police and Firemen's Insurance Association of Indianapolis.

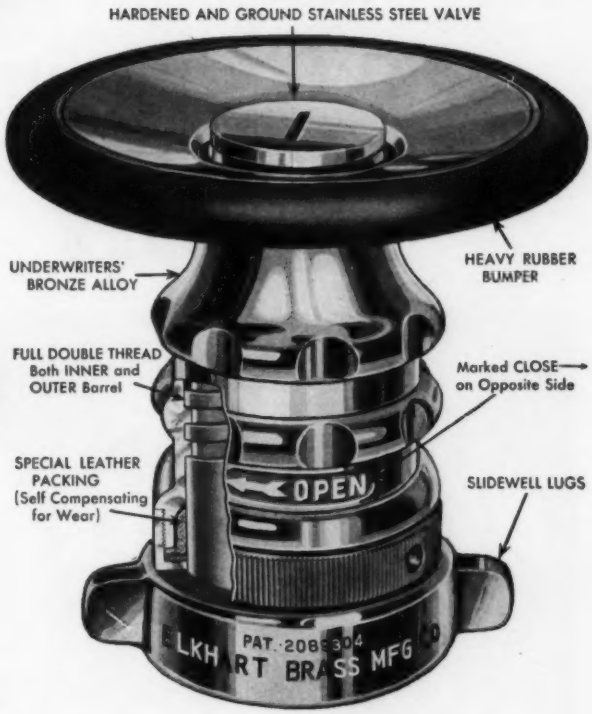
Chief Hildreth Honored at Dinner

The Hollis, N. H., Fire Department honored Chief Albert F. Hildreth at a dinner given in recognition of Chief Hildredth's fifty years of service, seventeen of which he has held the post of Chief. Nearly 100 guests, all firemen at one time or another, were present.

Chief Hildreth was presented with a bronze and mahogany plaque embossed with the chief's emblem.

ELKHART'S MYSTERY

THE OUTSTANDING NOZZLE FOR ALL PURPOSES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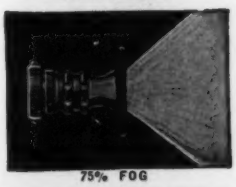
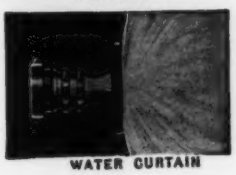
Every fire department should have several MYSTERY Fog Nozzles . . . they lessen labor and danger; they lower property damage to an appreciable degree.

We will be looking for you at the Convention in Spokane, Wash., where the MYSTERY and other ELKHART fire fighting tools will be displayed.

THOUSANDS IN SERVICE IN ALL PARTS OF THE COUNTRY

SOLID STREAM


75% FOG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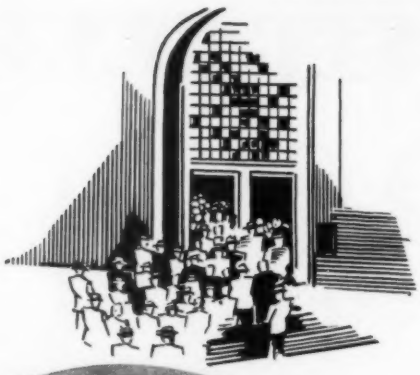
INTERNATIONAL ASSOCIATION OF FIRE CHIEFS

AUGUST 5-8th



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DISTRICT REPRESENTATIVES IN PRINCIPAL CITIES

Westchester Chiefs' Plan Holds Annual Dinner

The Fire Chiefs' Emergency Plan of Westchester County, N. Y., held its eleventh annual dinner at the Larchmont Shore Club, Larchmont, June 15th, with about 400 members and guests attending.

Fred Shepperd, editor, FIRE ENGINEERING, was the guest of honor and the only speaker. His message was most timely and was developed along the theme that

Roi Woolley

closer cooperation and greater spirit of community interest between communities was more important at this time than ever before. "There is a great fire raging in Europe," he said, "and if it keeps spreading I do not see how we can avoid it here." He pointed out that the county-wide fire unit idea of mutual aid between communities, as practiced in Westchester and other counties having "Emergency Plans," is the ideally effective method of defense against the ravages of fire.

Woolley Retires as President

The dinner-meeting marked the retirement of former Assistant Chief Roi B. Woolley as President of the organization, a post which he has held for four years. As evidence of its appreciation of his services, the Plan presented him with a beautiful gold watch, suitably inscribed. Mrs. Woolley was sent a bouquet of flowers.

President Woolley, who acted as toastmaster, introduced those at the speakers' table and other notables in attendance, among them Assistant Chief Edward Siller, Treasurer, who was re-elected to office for the fifth term; John Quinn, President, Westchester County Volunteer Firemen's Association; Chief Ryan and Assistant Chief Marvin, representing the Middlesex County (Conn.) Fire Chiefs' Association; Chief Wm. Keresey, Larchmont Police Department; Chief Frank Tierney, Larchmont Fire Department; Mayor Wm. Goeckler, Larchmont; Mayor "Bill" Murphy, Irvington; Fire Commissioner Earl Craig, Harrison, known to radio listeners as "Professor Quiz"; Chief Thomas Carroll, President, Fairfield County (Conn.) Fire Chiefs' Emergency Plan; Mayor Walker, Dobbs Ferry, President, Westchester County Village Officials' Association, former Chief James Mulcahey, of Yonkers, Treasurer of the International Association of Fire Chiefs; Capt. Eugene Riviere, Larchmont—one of the organizers of the Plan; Mr. Cameron, of the Westchester Macy chain of newspapers. Also the newly elected officers of the organization were introduced. They are: Commissioner Wm. Livingston, Tarrytown, President; Chief John Van de Water, Hastings-on-Hudson, 1st Vice-President; Commissioner Charles Jahne, Pleasantville, 2nd Vice-President, and Chief John Gibson, Mount Vernon, 3rd Vice-President; Howard Geer, Secretary, re-elected for the fifth time with Assistant Chief Edw. Siller of Yonkers, Treasurer, and the newly appointed members of the Board of Trustees: Chief John Brennan, Pelham Manor; Commissioner Robert Jackson, Bedford Hills; Former Chief Richard LeVino, Town of Mamaroneck. Retiring President Woolley was also elected to the Board for two years.

Telegrams and letters were received from The Honorable Ralph Gamble, House of Representatives, Washington; The Honorable Fiorella LaGuardia, Mayor, New York City; Fire Commissioner John J. McElligott, New York City; Fire Commissioner Arthur Loucks, Larchmont; L. S. MacPhail, President, Brooklyn Dodgers; E. G. Barrows, President, the N. Y. Yankees; Wm. H. Terry, the N. Y. Giants, as well as from officials of other fire service organizations and "Emergency Plans."

After an excellent dinner served by the Shore Club, the members enjoyed two hours of entertainment.

Lansing to Honor Chief Delfs

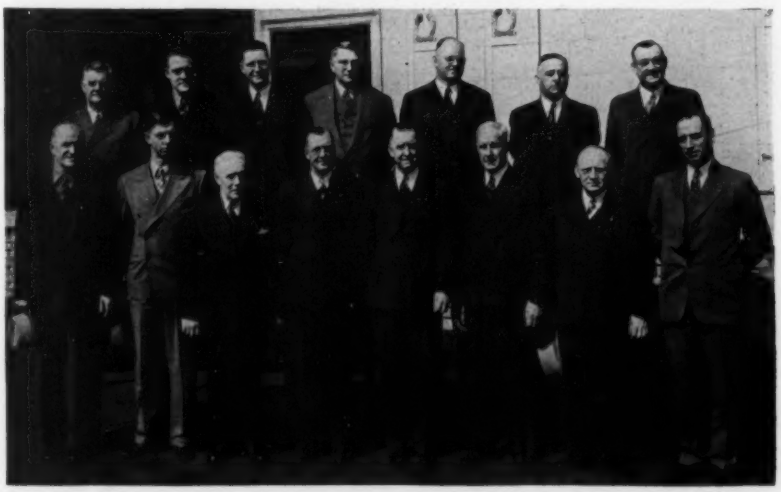
In recognition of fifty years of continuous service by Chief Hugo Delfs with the Lansing, Mich., Fire Department, the directors of the Lansing Chamber of Commerce voted to sponsor a community-wide celebration featuring a "fifty-years-in-service-dinner" on July 16.

Chief Delfs joined the department in 1890, at which time there were but two stations, thirty-seven alarm boxes, a chemical wagon, two hose carts, and a hook and ladder wagon that had to wait until a hack or baggage team could be obtained to pull it to the fire. Delfs was soon made a Captain, and in 1904 he was promoted to Chief, a position that he has held continuously since that date. In the fifty years that have passed since

Chief Hugo Delfs

he first joined the department, he has witnessed and has been responsible for the growth of the department which today numbers 112 full time firemen, eight stations and sixteen pieces of apparatus.

It is expected that the celebration honoring Chief Delfs will attract Chiefs from all parts of the country. He is a past President of the International Association of Fire Chiefs and has friends in all parts of the country.



Board of Directors of the Pacific Coast Association of Fire Chiefs Meets at Tacoma, Wash.

Back row, left to right: Captain Joe Cook, Seattle; Charles J. Eisenbacher, Secretary to Chief Whitaker, Tacoma; Lieut. T. L. Lewellyn, Chairman of Publicity, Tacoma; Captain F. C. Rosacker, Spokane; Captain W. A. Groce, Spokane; Chief William Fitzgerald, Seattle; Chief Emory Whitaker, Tacoma, all in state of Washington. Front row, left to right: Chief G. M. Twaddle, Reno, Nev.; Chief L. L. Burgunder, Colfax, Wash.; Chief Thomas Carlton, Bend, Ore.; Chief Hugh Morris, San Mateo, Cal.; Chief A. J. Baker, Lewistown, Mont.; Ex-Chief J. W. Stevens, San Francisco, Cal.; Ex-Chief Edward Steinhauer, Redding, Cal.; Commissioner Eastwood, Tacoma, Wash.

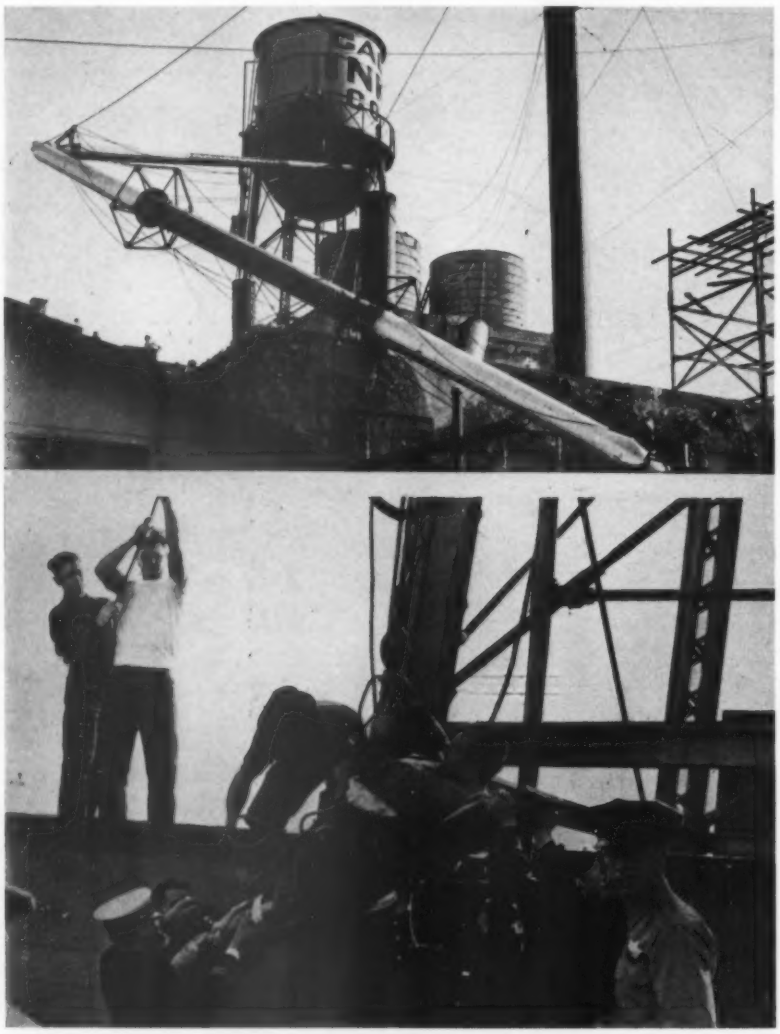
Firemen Make Difficult Rescue

One afternoon during May, 1940, a group of professional riggers were engaged in setting the top and last section of a large steel smoke stack at one of the leading industrial plants at Berkeley, Cal. To raise the last forty-foot section, weighing four and one-half tons, the riggers were making use of a tubular, cable braced boom. One of the cables used to guide the boom into position was snubbed around a sprinkler system tank, with stress and slack being guided by means of snatch blocks. Two men were operating the blocks from the catwalk of the tank. During the operation, as the top was to be set in place, the steel boom buckled, allowing the stack section to crash through the roof of the plant. This caused the guide cable, controlled from the tank catwalk, to break and snap toward the tank. The cable struck the guard rail and footway of the catwalk jamming one of the workmen in a reclining position between the catwalk rail and the tank. This was the situation when the Aerial Truck Company and a Rescue Squad Company in charge of a Deputy Chief were called to remove the injured man.

The Rescue Squad immediately treated him for shock, while the Truck Company prepared rigging to lower the patient to the waiting ambulance crew. Due to the narrowness and the curvature of the catwalk, none of the stretcher or splint equipment of the Rescue Squad could be used to advantage. An improvised back splint, made on the scene from a piece of one by twelve-inch fence board, was padded and slipped under the injured man. He was then secured by means of triangular bandages. A three-quarter inch rope triple boatswain's chair stretcher sling was lashed to the improvised back splint and arranged so that the patient could be raised and lowered in a vertical position. He was lowered by use of a block and tackle.

In the meantime the injured man had regained full consciousness, and was high in his praise of the way he was being handled, and the rapidity with which the department crews set up the rigging whereby he was freed and lowered without further injury or pain.

As night fell, new crews of professional riggers began the task of removing the debris, and lowering the teetering section of the stack that was in place to the ground. The department loaned these crews a Homelight Unit with three 500-watt flood lights that facilitated the night's work.



The Cause of the Accident in Berkeley, Cal., and the Victim

Upper: The buckling of this steel boom was the cause of the accident. Below: Here the victim is being lowered to the waiting arms of Berkeley firemen. The men in civilian clothes are off-shift firemen

Hartford Has Oil Tank Fire

Quick work on the part of the Hartford, Conn., Fire Department prevented what might have been a disaster on May 6 when one of the large gasoline storage tanks owned by the Hygrade Oil Company at Rocky Hill, a suburb of Hartford, burst into flames. The huge half-million-gallon steel tank, containing approximately 10,000 gallons of gasoline, caught fire at two p.m. when a plant employe opened a vent near the base of the tank to enable cleaning the inside of the giant drum.

As the plate was removed a wrench used by the workman created a spark of static electricity, igniting gasoline vapors, and the opening became a roaring blow-torch. The employee leaped away from the tank and escaped injury, while fellow employees ran to marshal the plant's fire-fighting equipment.

An immediate alarm brought the Rocky Hill Fire Department, and a general alarm within the next few minutes brought both volunteer fire companies from nearby Wethersfield and Hartford Fire Company No. 10, was ordered to the scene by Chief Michael T. Keena. A company from the town of Cromwell also responded with apparatus. More than forty firemen fought the tank blaze for an hour.

Firemen battled the blaze, the first to occur at the plant since its erection, in the knowledge that 10,000,000 gallons of gasoline, kerosene and fuel oil were stored in a surrounding nest of tanks, several of which were twice as large as the one ablaze. Foamite maintained at the plant was used extensively to combat the fire.

Chief Keena ordered several streams of water from 2½-inch hose lines to be turned across the opening from which the flames belched. The attempt was successful, the water separating the gasoline vapors from the flames. Thousands of gallons of water was poured over the tank continually during the fire to keep it cool and reduce the danger of explosion.

THOMAS F. MAGNER.

Vermont Firemen Meet at Barre

The annual convention of the Vermont State Firemen's Association will be held at Barre, August 16 and 17.

Meetings will be held in the new auditorium, and the sports events will be held in the field near the auditorium. The headquarters of Secretary W. H. Adams, the business meeting and the association banquet will be at the Hotel Barre. The parade and sports will be held the afternoon of the second day.

ARE LIFE NETS NECESSARY? . . .

read these

Washington Fire Kills Many

See Need for Proper Life-saving Equipment

Eight Die in Charlotte, N. C. Apt. Blaze

Flames Turn Back Firemen
Life Saving Devices Sought

Five Dead in Fire

Worcester, Mass., Apartment House Gutted.
No Protective Devices

3 Saved by Leaps Into Fire Nets

Firemen Prepared to Rescue Those Trapped

IT starts you thinking, doesn't it? And bear in mind that these blazes happen everywhere . . . trapping people in smoke and flames . . . confining escape solely to windows and roofs.

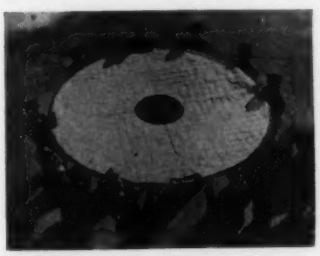
Ladders? They have a "safe reach" limit; you know that. Life Nets then! Of course! They are a necessity in every Department. Can anyone doubt that with facts staring them in the face? Isn't ***life saving*** your first duty? Take a state like Massachusetts that has made it compulsory for all Fire Trucks to carry Life Nets. PREPARED for emergencies? You bet!

Don't chance it; carry an ATLAS LIFE NET to the action front on your Truck. Why the ATLAS? Because it is actually ***engineered*** for ***life saving.*** Its patented mechanical features, ***not found in any other Net,*** make it the ***only*** Net that can SAFE LAND falls from great heights.

Every Fire Truck Should Carry a Life Net!

Both AERIALS and PUMPERS come equipped with compartments to carry Life Nets. Specify ATLAS on your new apparatus.

← a different story in this case

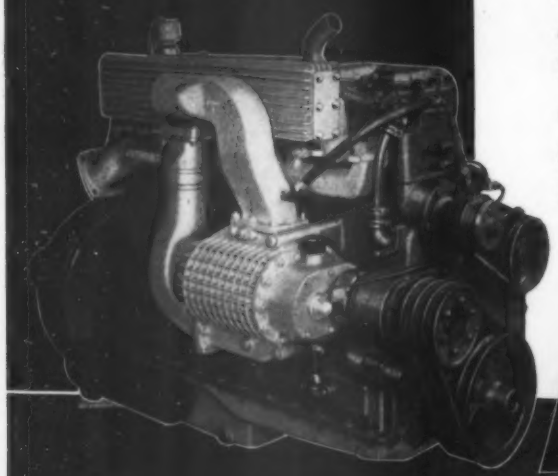


The 1940 Quarter-Fold Atlas Life Net

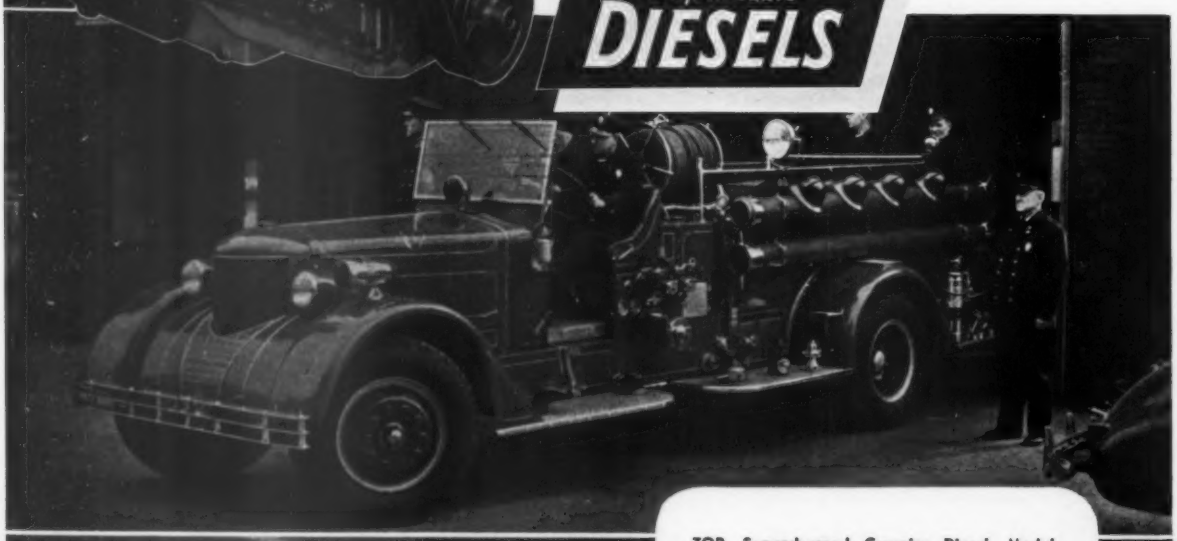
ATLAS FIRE EQUIPMENT COMPANY
[illegible] WESTERN STREET [illegible] 1000

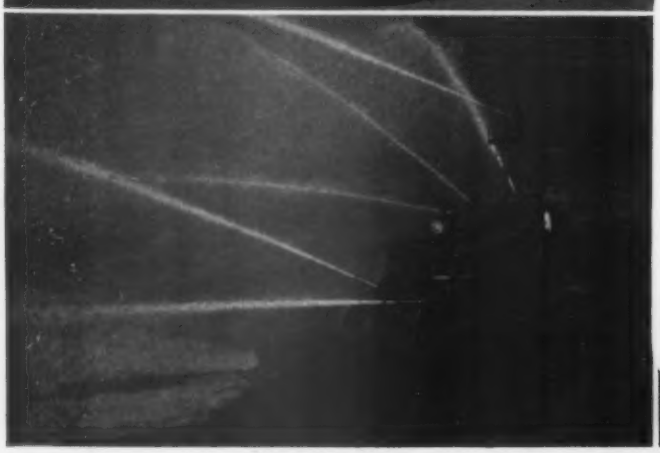
Supercharged . . .

The answer to the Fire Chief's demand for *More Power, Gasoline Flexibility, and Instant Starting with Diesel Safety and High Torque* at low rpm. Hour after hour of fully sustained power for pumping with no falling off under load. Cummins Engine Co., 5816 Wilson Street, Columbus, Indiana.



CUMMINS
Dependable
DIESELS





TOP: Supercharged Cummins Diesel, Model HBS-600. 200 hp. at 1800 rpm. Standard models for stationary pumpers or fireboats from 40 hp. to 500 hp. This wide horsepower range gives you the opportunity to standardize on power for diesel operations.

ABOVE: Cummins Diesel-powered pumper at Columbus, Indiana. The first diesel-powered fire truck in the United States.

LEFT: According to the Chicago Tribune, operating cost of Chicago's Cummins Diesel-powered fireboat, Fred A. Busse, for the first six months of 1939 was $475. For the same period, it cost $3,350 to operate the steam-powered Medill. The Busse answered 79 alarms, the Medill, only 5.

WOMEN'S DRESS A FIRE HAZARD, SHOWN BY INSURANCE RECORDS

Study Made by Metropolitan Life Insurance Company Reveals 350 Deaths of Housewives in Two Years

A LARGE number of women each year in the United States, die victims to feminine fashion of dress. For women's clothing is unfortunately a definite fire hazard which men, with their closer fitting and heavier garments, escape.

Burns sustained in ordinary home activities cause the death of about 1,600 women (over age fifteen) in the United States each year. This includes some 350 deaths from the use of flammable liquids for kindling fires, for dry cleaning, and other purposes; it also includes some 150 deaths through clothes of women catching fire as they warm themselves near open fires or hot stoves. It excludes, however, 350 women who are not counted in this category, but who lose their lives in conflagrations of buildings.

Analysis of Accidents

It is a mournful object lesson to survey a statistical summary of the various circumstances through which women lose their lives from accidental burns. Such a summary, presented in the table is based on the mortality records of 388 women, aged fifteen and over, insured in the Industrial Department of the Metropolitan Life Insurance Company, who died from such causes during the years 1936 to 1938, inclusive. Sufficient details for analysis regarding the agency and circumstances involved were given in 350 of these cases. Presumably the sample is fairly representative of corresponding conditions throughout the United States, more particularly urban districts.

The agencies involved in fatal accidents of this kind are, in order of importance, stoves and grates (excluding kindling fires with flammable liquids), flammable liquids, matches and cigarettes, hot liquids, bonfires, oil lamps, electrical appliances, and candles.

Almost one half (171) of the deaths were attributable to stoves and grates. Typical examples in this class were the following: a woman used her apron as a potholder to remove a pot from the top of a stove, and in doing this she set the apron ablaze; a woman, housecleaning on a holiday eve, backed into an open grate and ignited her clothes.

Many Hurt Away From Stove

A surprising feature about these accidents is that so many occur, not while the woman is actually at work over or tending the stove, but while she is engaged in other activities. In fact, of the total 171 deaths attributed to accidents through stoves and grates, no less than ninety occurred during such incidental activities.

In not a few cases the injured person was suffering from some physical ailment that brought about the accident. Some of these women fell on hot stoves when overtaken by dizziness or a fainting spell, heart attack, or apoplectic stroke. Others fell on the stove merely through old-age infirmity.

Flammable Liquids

Perhaps the least excusable fire hazard in the home is the use of flammable liquids. Explosions or spreading flames arising from the use of such liquids accounted for no less than seventy-three, or twenty per cent, of the total number of fatal home burns here analyzed. Possibly the most reprehensible misuse of flammable substances is their employment in lighting or hurrying along a coal or wood fire. The death list from this cause includes thirty-one deaths from kerosene, eight from gasoline, two from benzine, one from turpentine, and three from unspecified liquids. Dry cleaning with gasoline and similar agents in the home is bad practice under even favorable conditions, but when carried on in poorly ventilated rooms in which there are open flames or pilot lights, the chances of an explosion or fire are very great. In our list, fourteen deaths were chargeable to flammable dry-cleaning compounds. Occasionally, flammable substances are used for purposes other than cleaning clothes; namely, polishing stoves, waxing floors, etc. Sometimes the mere storage of such compounds near heaters or flames has caused explosions and deaths.

It would seem that by this time people would have learned how to use matches safely and to smoke without endangering their lives and the lives of others. Yet our list shows that careless use of matches and cigarettes brought death to no less than thirty-two of these women, and of these, twelve had been indulging in the extremely risky habit of smoking in bed. Others set their clothes on fire while simply lighting a cigarette or while trying to throw a little light into closets or dark places to find some article stored there. In one instance, the breaking off of the lighted end of a match caused the woman's apron to catch fire.

Agency and Circumstance Attending Deaths from Burns Among Females, Ages 15 and Over, In and About the Home. Weekly Premium-Paying Business, Industrial Department, 1936-1938. Metropolitan Life Insurance Company

Agency and Circumstance	Number of Deaths	Per Cent of Total
Total	350	100.0
Stoves, furnaces, grates, etc.*	171	48.9
Working at stoves	44	12.6
Warming self	34	9.7
Lighting or tending fires	37	10.6
Other activities	56	16.0
Flammable liquids	73	20.9
Kindling fire	45	12.9
Dry cleaning	14	4.0
Storing or carrying liquid near flames	8	2.3
Polishing stove	2	.6
Other uses	4	1.1
Matches and cigarets	32	9.1
Smoking in bed and falling asleep	12	3.4
Lighting up closet or other dark room	4	1.1
Careless lighting of cigaret	4	1.1
All other circumstances	12	3.4
Hot liquids	25	7.1
Taking shower or bath	7	2.0
Tripping while carrying vessel	7	2.0
Upsetting vessel on stove	7	2.0
Upsetting vessel—no other information	4	1.1
Bonfires in yard	16	4.6
Oil lamps	15	4.3
Upset or dropped	9	2.6
All other circumstances	6	1.7
Electrical appliances (excluding burns by electricity)	8	2.3
Heating pads	4	1.1
All other	4	1.1
Candles	2	.6
Other agencies and circumstances	8	2.3

*Does not include burns from kindling fires with flammable liquids.

Large Number Are Scalded

Aside from burns with flames, burns or scalds with hot liquids claim a number of victims each year, although this type of accident usually happens to children rather than to adults. Of the instances recorded, in seven cases invalid or feeble persons were the victims, when bathing or taking a shower unattended. A number of the women met death by tripping while carrying hot liquids or by knocking over vessels standing on hot stoves.

Another household chore which claims its victims through fatal burns is that of destroying rubbish, waste paper, dead leaves, and grass in bonfires. A sudden gust of wind blowing the flames about has in such cases set ablaze the clothes of the woman attending the fire.

One fire risk which to many of us would seem to be out of date, is oil lamps. The upsetting of these has caused many fatal burns. A more modern risk is that of electrical appliances; even the use of electric heating pads in bed has claimed its victims. There is, in fact, hardly any source of fire that has not played its role in bringing about these accidents. The primitive candle has added to the toll, as well as the blow torch used in thawing frozen pipes.

Death Rate Being Lowered

A survey of cases such as here listed leaves one impressed with the seriousness of hazards, especially to women, from these common household sources. But actually the case is not quite so bad. The trend of the death rate from burns among women has been downward for some time. Several reasons for this decrease can be seen. The modernization of the American home has much to do with it. Oil lamps have become a rarity in many places, and gas for illuminating purposes equally so, having given place to the comparatively innocuous electric light bulb. The coal stove, too, is distinctly more of a hazard than its modern counterpart, the gas or electric range. Nor would this survey be complete without mention of the modern methods of treating burns, which not only have lessened the pain, but have saved lives. Lastly, all credit should be given to the efforts of organizations, such as the National Fire Protection Association and the National Safety Council in educating the public about these risks.

Taken from "Statistical Bulletin", of the Metropolitan Life Insurance Company.

SEDAN TYPE RESCUE CAR IN USE IN NEW YORK CITY

Apparatus Equipped with Two-Way Radio and a Loud-Speaker—Provided with Latest in Rescue Equipment

By Wm. Jerome Daly

NEW YORK CITY'S first sedan fire engine, Rescue No. 1, was given a prescribed road test recently. The van was on public exhibition at the World's Fair on June 12 in the parade of old and modern fire apparatus which was part of the ceremonies held in conjunction with annual medal presentations by Mayor F. H. La Guardia for valor in the line of duty last year.

Rear View of Rescue Car Showing the Winch

The van is needed to replace the apparatus of Rescue No. 3 which was wrecked and burned on May 3, 1938, in the Fordham section of the Bronx as the result of a collision with Engine Co. 48. Both companies were responding to different alarms. The Captain and a Fireman of Engine 48 were killed. Others in each company were seriously hurt.

In July, 1938, the Fire Commissioner of New York was authorized by the Board of Estimate to expend $10,000 for a new rescue truck and $5,000 for its equipment. The contract was awarded in December, 1938, to the Ward-La France Co., the only bidder. The eventual cost will be about $18,500.

Truck Details

The van has a six-cylinder motor of 220 hp. It is thirty-one feet long; eight feet wide and approximately ten feet high with seventy inches of headroom in the body. Its specified weight was nine tons, but current indications point to an inevitable weight of thirteen tons without any crew. There is provision in the forward cab for carrying eight, including the company officer and chauffeur. The latter two are in the driving cab and the firemen are in a secondary cab from which there is a narrow door leading into the body. The body is all steel, spot welded, and the floor of the van is also steel. Dual tires on rear wheels.

Two-Way Radio

The van is equipped with two-way radio which is a unit of the radio alarm system of the N. Y. F. D. on 1630 k. c. The machine has a loud-speaker mounted atop the cab for the facility of a Chief Officer to use as a public address system. All the compartments are closed in with hinged steel collapsible doors, both interior and exterior. The rear of the van has a crane protruding over the rear step. It is specified to lift five tons by means of cable and winch. The winch is forward and is electrically operated. The crane has two giant adjustable tormentors.

The rated speed is seventy mph, with electric tell-tale on the instrument board when the machine is doing forty mph. It has several new features in rescue company equipment. There is a smoke ejector which is gasoline driven; there are ten canister masks of the Burrell type; six self-contained masks of the Mine Safety Appliance Co.; and a hose mask. Two H&H inhalators; a set of safety harness for roof rope rig and other progressive features. The brakes are power operated, with a reserve for deceleration of three or four applications after the engine is shut down. There is also a mobile cutting torch with portable knapsack for the gas supply. Noxious gases can be tested and analyzed on the fire ground. The siren is power driven. It also has a Buckeye whistle. The lettering on the panel of the body says: "RESCUE SQUAD No. 1" but as yet no assignment has been promulgated.

Side View of the New Type Rescue Car in Service in New York City

Fire Department Budget Presented

Chief Charles J. Brennan, San Francisco, Cal., Fire Department, has asked the Mayor's office for $219,830 for new equipment for the term 1940-1941. The Mayor recommended the figure of $105,013 for the approval of the Board of Supervisors. Last year the Chief was awarded $36,872, which was almost entirely expended on fire hose.

This year the Chief has asked for a two-way radio, which was denied, four engines, four water wagon chassis, one high-pressure battery wagon chassis, four tractors, one tow car chassis, four hydrant service trucks, six Chief's cars, three trucks, miscellaneous hose and hydrant suctions, 100 low pressure hydrants, fifty low pressure hydrant bodies, and beds and chairs.

A Crusader Against Dial Telephones

At the New York State Fire Chiefs convention at Poughkeepsie on May 22, Chief Henry F. Drake, of the Stanfordville, N. Y., Fire Department was presented with a beautiful (ten cent) dial telephone.

In searching for the story behind this presentation, it was learned that for the last ten years, Chief Drake has carried on a crusade against the use of dial telephones and almost had the telephone company discarding them. However, the company has gone to a great deal of expense developing and installing these phones, and as a result nothing much can be done.

Because it's Mildew-Proof, Rot-Proof, Freeze-Proof you will soon find out how truly *economical* is

MANHATTAN *Radio-Active Treated* FIRE HOSE

A few recent comments from Fire Chiefs:

"Thoroughly satisfied with MANHATTAN Radio-Active Treated Fire Hose purchased some years back."

"Outstanding service from our MANHATTAN Radio-Active Treated Fire Hose."

"Have had good results and like its flexibility and ease in handling."

"This Fire Department has had Radio-Active Treated Fire Hose in service nearly two years. Well pleased with same."

Natural wear or accident are the only limits to the life of MANHATTAN Radio-Active Treated Fire Hose. It makes your budget go farther for these six reasons:—

1. You need less hose—it can be re-used wet.
2. You don't have to have so much dry hose in reserve.
3. Lasts longer because it resists mildew and rot.
4. Lighter and easier to handle because it absorbs less water—does not get water-logged—is flat-folding.
5. Does not freeze in winter.
6. Lowers maintenance cost because careful drying is unnecessary.

Its green jacket (symbol of MANHATTAN'S original patented protective process) is your assurance of service, safety and saving.

Genuine WESTINGHOUSE AIR BRAKES

are answering calls with the nation's top-flight departments

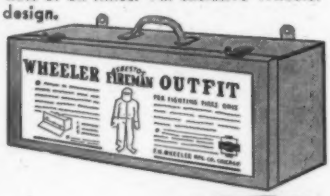
Nothing takes the place of the world's most dependable control in a service which is nothing if not dependable ★ That's why genuine Westinghouse Air Brakes have come to take their rightful place of prominence in the service of the nation's top-flight fire departments ★ From the largest cities to the smaller municipalities genuine Westinghouse Air Brakes are ready in any emergency . . . the wise choice of thinking fire executives everywhere ★ Genuine Westinghouse Air Brakes cost much less than you'd imagine . . . Write for complete information.

BENDIX-WESTINGHOUSE AUTOMOTIVE AIR BRAKE CO.
PITTSBURGH, PENNSYLVANIA

THERE IS A BENDIX-WESTINGHOUSE CONTROL ENGINEERED SPECIFICALLY FOR EVERY FIRE FIGHTING NEED

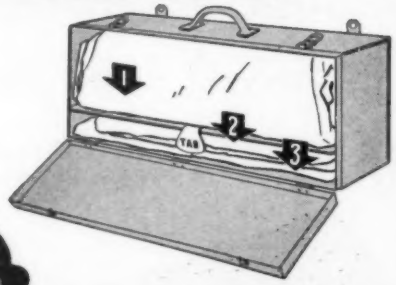
ONE, TWO, THREE
AND IT'S ON!

A one-piece zipper fastened suit with overshoes attached; in one size, and so made that it adjusts itself to wearer's height and weight. Underwriters Asbestos clad—from head to foot—almost with the first sound of the Fire Alarm. Packed in all Metal Case with easily opened fasteners. No lock, but label contains warning. May be hung up or carried. The Jumper Suit folds up on a separate tray which is pulled out by a tab. The Helmet and Gloves lay below the tray in proper order. The Outfit is in constant readiness at all times. All exclusive Wheeler design.



1—Slip on Suit
2—Put on Helmet
3—Slip on Gloves

ASBESTOS FIREMAN



Maintaining a standard of the best in adequate *fire* protection . . . yet keeping abreast of changing conditions and requirements . . . whether it's helmets, No. 1000; leggings, 774 (See 4-11 Outfit pictured at left), or gloves, 805, asbestos coats, 1205; pants, 1200; blankets, 1611, or overshoes, 555; *specify size in ordering*, satisfied users everywhere testify to the outstanding "safety" advantages of Wheeler fire fighting apparel.

PROTECTIVE WHEELER APPAREL

Write us today for prices and details.

F. H. WHEELER
MFG. COMPANY, CHICAGO, ILLINOIS

Our inquiring reporter overhauls the firemanic news of the day

"Department of Red Faces"

William J. Marantette, member of Detroit's "Bravest," has reason to regret a habit of speeding, developed so 'tis said, from his job. T' other day he was going at a nice 60 m.p.h. when a motorcop stopped him with the usual *"Where d'ya think yer going—to a fire?"* Marantette confessed there was none—paid a $10 fine.

Please Return—No Questions Will be Asked!

Coming from the "City of Brotherly Love" it's pretty hard to believe this, but the papers of June 14 swear to it, and so we print it. Seems that over in Philadelphia, Pa., the police are hunting for fire alarm box No. 6199 because it's missing. Yeah—swiped, filched, pinched—stolen, in fact. It all came about through a traffic accident when an automobile crashed the box standard, and during the ensuing excitement, some misguided son of Satan, up and stole the box—post and all!

Terpsichorean Firemen

The Brothers of Carterville, Mont., suburb of Butte, are renowned rug cutters, but they never let pleasure interfere with duty. While strutting their stuff at their annual dance, a drug store across the street took fire. Attired in full "party" regalia, all hands responded to the call, extinguished the fire and returned to their palpitating partners without losing scarcely more than one chorus. Sound yer "A" professor!

275-Lb. Human Fire Hazard

Mrs. M. S. Cunningham, aged 51, is a teacher in N. Y. C. public schools. Because she weighs 275 lbs., has a stiff knee and is otherwise physically incapacitated, Board of Education calls her a "fire hazard," wants to retire her, saying "Her physical condition makes her obviously a fire hazard. She can scarcely put on her coat without help, and in a building press she would be bound to slow down the exit of the rest of the school." Meanwhile Board of Superintendents haven't acted on her retirement and education board can't consider case formally until supers make a recommendation. Yeah, it's a "weighty" question.

The Month's "Tall Story"

Believe it or not, our informant, who had it direct from a fireman who was on the scene and saw and heard it, sez it's true. Seems that when Yonkers and Eastchester (Westchester County, N. Y.) were battling $300,000 apartment house blaze a crew, sent upstairs to "pull ceilings" opened an apartment door and saw woman at the telelphone, with fire already coming through ceiling directly overhead. What's strange about it is fact that woman was trying to argue an insurance company into giving her a fire insurance policy!!!

Them Dear Dead Days

Oldest living fireman of Hartsdale (N. Y.) F. D., telling about the "dear dead days of old" says the Vamps used to leave a monument at the scene of every fire. The "monument" consisted of a chimney or chimneys, and a foundation. Which is akin to that old wheeze of the Vol's.—"Well, we saved the lot, anyway!"

Hot Money

The Brothers of Newport, R. I., according to demon fire reporter Johnny Weisberger, were called to handle some "hot money" not s' long ago. A short circuit set fire to the interior of an electric cash register, automatically locking it. The Brothers had to shut off the current before business could be resumed. Talk about "current assets!"

The Fire Fighting Chaplain(?)

It seems, so the story goes, that the Rev. Frederic W. Litchman, at Chanute, Kan., way, did not covet his neighbor's wife, or his neighbor's ox or anything like that, but he did covet a ride on a fire truck.

As rector of Grace Episcopal Church he hesitated to gratify his desires for fear his parishioners and neighbors might think it ungodly. However, after mature deliberation, he concluded that even a minister has *some* rights and so he asked the local Brothers if he could roll with 'em to the next fire. They said he could, and they would call him the "Fire Fighting Chaplain." So. Mr. Litchman began spending his hours at the fire house, but, sad to relate, whenever he was present, fire alarms were absent. The calls allus came when he was preaching or away visiting the sick.

Mr. Litchman said that while he prayed there would be no fires, if there *had* to be one he didn't see why it couldn't happen while he was at the truck-side. And to be sure he was on deck he even prepared his sermons in the fire house. But still no fires. He even took to pinochle and checkers with the Brothers, so's not to miss the bell.

Then, one day, as Mr. Litchman was playing checkers, the alarm sounded. CLANG, CLANG, CLANG!! Whereat the Rev. "Buff" threw his cards in the air, knocked his chair from under him and leaped frantically on the running board of the nearest truck. He took a grim hold on the brass rail and prepared for whatever was to happen. But nothing did—to Mr. L. It seems he had the right idea, but the wrong execution. Not until the other trucks had rolled out did Mr. Litchman realize that he'd been left behind.

We could end the story here, but it's only right to say that our hero's perseverence was finally repaid. And the very next day he "rolled" on the right truck to a real blaze.

Fireman Loses Suit for Crash

In Newark, N. J., earlier this year, Mrs. Eleanor Wrensch of Montclair, N. J., brought suit against August Bechtoldt, Belleville, N. J., fireman for injuries suffered when her automobile was struck by a fire truck answering an alarm, driven by Bechtoldt. She asked for a modest $12,000. Circuit Court Judge Edwin C. Caffrey awarded her $1,250, ruling that *the right of way given to fire apparatus did not excuse the driver from using caution.* Our informant faileth to advise who finally hadda pay the bill, Brother Bechtoldt, or the local community.

Fireman Fined For Speeding!

Earl Robinson, our Des Moines contrib', tells us about poor Chief Joe Roll (what's in a name!) who was speeding to an alarm of fire (which later turned out to be a false) at about 55 m.p.h. when motorcycle policeman Gerald Bowers pinched him. Justice of the Peace J. L. Van Selois socked the Chief $3 fine which was paid. This all happened in Three Rivers, Mich.

Every Man For Himself at the Bell

The police of Memphis, Tenn., found him prostrate in an alley, soaked to the gills with alcohol and rain. A search of his pockets revealed a printed card, bearing his name "Guy S. Campisi" and these instructions: *"When I'm full take me home. Ring the bell. Run like hell."* But the cops had their own ideas, so he was booked for drunkenness. No, he wasn't a fireman! or was he?

Musings by Magner

Our Nutmeg State Contrib', Tom Magner, sends us these:

The other day the gendarmes rescued an auto that plunged over a dock into the harbor at Bridgeport, Conn. The driver told the officers he was bent on suicide. A few days later the same car, in a repair shop a few blocks up the street, was totally destroyed by fire. No, the feller wasn't in it.

What's inna name? Lawrence E. Reif is Chief of the New Haven, Conn., Fire Department. Juggle the letter R-E-I-F and you find they spell F-I-R-E.

Orchids to Miss Emma Kalwat, New Britain, Conn., 'phone operator. A few months ago Miss Kalwat notified the Brothers in time to prevent a serious blaze. Then, on April 30, the same "hello" gal saw 18 switchboard lights flashing in her office and again suspecting trouble—notified the F. D. It was a blaze in the Morris Birnbaum Department store. Loss of $65,000 mighta been greater but for her acuteness.

Hot Off the Tape

When gas, believed to have accumulated under the tile roof of the Nassau & Suffolk Lighting Co.'s generator house at Garden City exploded, one man was

killed, another injured. . . . A lighted cigarette flipped from an automobile dropped into tank being filled with gas. Resultant explosion seriously burned two negroes. . . . Merle Dunning, Denver (Col.), was blown 40 feet by explosion of 1,000 gal. tank of gas. Ignoring own flaming clothes, he smothered burning clothing of Wayne Hall, 10, who suffered only minor burns. Dunning, aged 29, reported to have died later. . . . Truckman Wm. E. Potter, 24, of H & L Co. 25, N. Y. F. D., fell from kitchen window of his apartment, was badly injured. . . . Mistaking a jug of gasoline for similar one containing water, Mrs. Henry Link, 29, of Elmont (L. I.), poured the fuel into coffee pot and put on coal stove of her 35-ft. cabin cruiser to boil. Few minutes later coffee pot exploded, hurling Mrs. Link and her grandfather, Capt. John A. Johnson, against door of cabin, setting fire to interior. Both died from terrible burns. . . . Seventeen pieces of mail were partly burned, many firemen called out, when some one deposited lighted cigarette in mail box in Brooklyn (N. Y.). . . . When a thief, or thieves, got nothing after breaking into Public School 19, Elizabeth, N. J., they set building afire. . . . Vamps of Marysville, Mich., near Port Huron, bored by lack of action—and fees ($3 per alarm answered), organized arson ring. Leo Nelson, son of Chief, pleaded guilty; seven implicated, in all. . . . Eleven fine riding horses and Great Dane watchdog perished when fire destroyed Bridlecrest Riding Academy, Englewood, N. J. . . . At Farmington, N. Y., a $1,750 garage fire cost 6,000 lives. The dead were white Swiss mice, being raised for hospital experimental purposes. . . . Knowlton Pierce, Jr., 25, of Kearny, N. J., whose late father was Chief of Kearny F. D., and who himself has taken an exam' for membership in department, was arrested in Newark on charges of arson—setting fire to 28 automobiles in last six weeks. . . . When Vincent Holtz's barn caught fire, blaze ignited car, in turn set off siren which awakened Holtz who extinguished blaze. . . . Wm. Roux, 45, Flushing, L. I., N. Y., got second degree burns when lye, which he was using to clean a pipe at the Petroleum exhibit, World's Fair, spilled over him.

There Oughta Be a Real Law

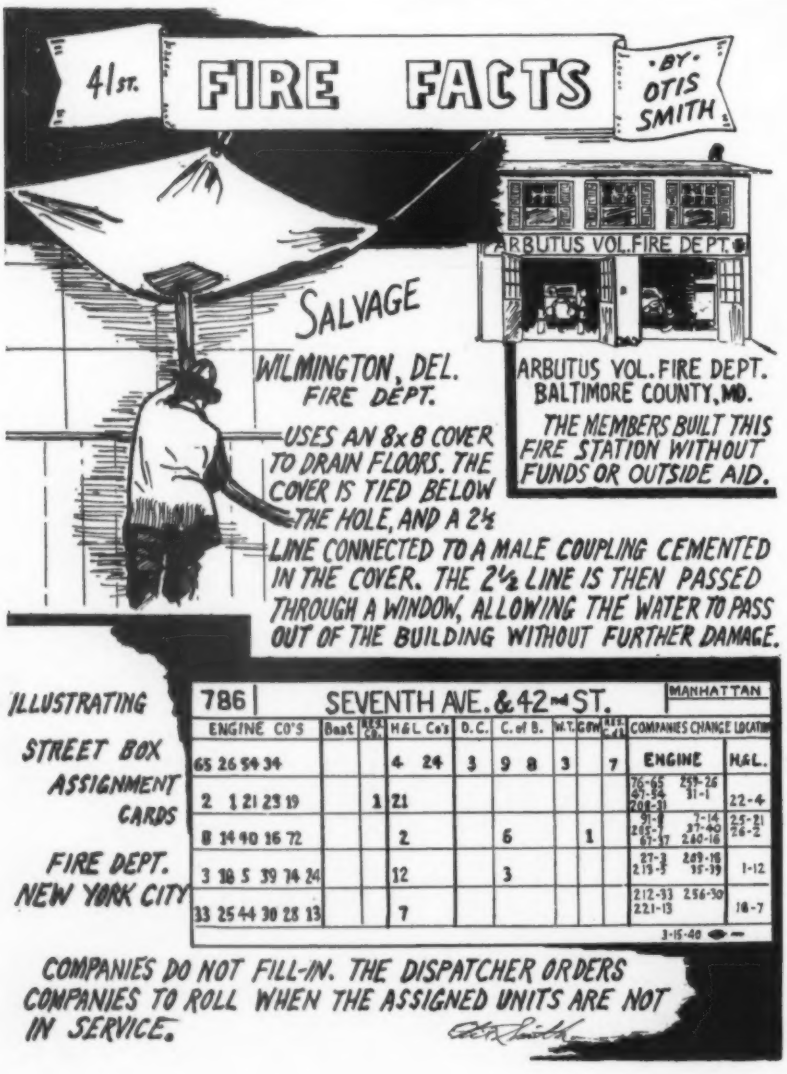
The false alarm evil continues unabated, as one may witness by the following:

While responding to a false alarm Eng. 227, Brooklyn, N. Y., collided with a milk wagon, so seriously injuring fireman Patrick Shevlin, that he died later. Also hurt was fireman Daniel Tersaga. Two boys, one 19 and one 21 were apprehended—held on $5,000 bail, when arraigned before Magistrate Anthony V. Savarese in Queens Felony Court. If they'd shot Shevlin they'd go to the electric chair. As it is, murdering him in this way, they'll get off with a slap on the wrist.

Negro Sentenced

Magistrate James A. Blanchfield, in Brooklyn Week-end Court, sentenced Willie Harris, negro, to 30 days in jail for prankishly turning in false alarm at 5 a.m. a few days after fireman Shevlin died. New York firemen, who appeared against him, left the court to attend Shevlin's funeral.

Tom McMahon, 27, fireman attached to H & L 7, N. Y. F. D., was injured when a ladder to which he was clinging while truck responded to a false alarm, came loose tumbling him to pavement.


41st.
FIRE FACTS
BY OTIS SMITH
ARBUTUS VOL. FIRE DEPT.
SALVAGE
WILMINGTON, DEL. FIRE DEPT.
USES AN 8x8 COVER TO DRAIN FLOORS. THE COVER IS TIED BELOW THE HOLE, AND A 2½ LINE CONNECTED TO A MALE COUPLING CEMENTED IN THE COVER. THE 2½ LINE IS THEN PASSED THROUGH A WINDOW, ALLOWING THE WATER TO PASS OUT OF THE BUILDING WITHOUT FURTHER DAMAGE.
ARBUTUS VOL. FIRE DEPT. BALTIMORE COUNTY, MD.
THE MEMBERS BUILT THIS FIRE STATION WITHOUT FUNDS OR OUTSIDE AID.
ILLUSTRATING STREET BOX ASSIGNMENT CARDS
FIRE DEPT. NEW YORK CITY
786 SEVENTH AVE. & 42nd ST. MANHATTAN
ENGINE CO'S | Boat | Res. Co. | H&L Co's | D.C. | C. of B. | W.T. | G.W. | Res. C'ls | COMPANIES CHANGE LOCATION | ENGINE | H&L.
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COMPANIES DO NOT FILL-IN. THE DISPATCHER ORDERS COMPANIES TO ROLL WHEN THE ASSIGNED UNITS ARE NOT IN SERVICE.

McKenna and Archer Made Commissioners

Fire Commissioner J. J. McElligott, New York City, has announced the appointment of two new Deputy Fire Commissioners.

G. L. McKenna, Deputy Fire Chief, who entered the fire service thirty-five years ago, was sworn in as First Deputy Fire Commissioner to succeed Elmer Mustard, who died recently.

Dr. H. M. Archer, who was appointed Honorary Deputy Chief in 1913, was sworn in as the Second Deputy Commissioner. Dr. Archer has been Honorary Medical Officer of the New York Fire Department for many years. He has been active in fire department circles and has addressed many fire service conventions, including the I. A. F. C. and the Eastern Association of Fire Chiefs.

New Association Leaders Elected

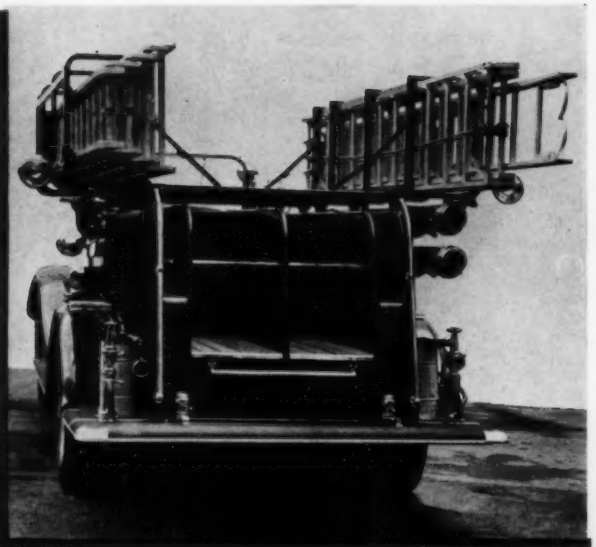
The District Chief F. M. Dodge of the Concord, N. H., Fire Department, was named President of the New Hampshire Association of Fire Chiefs and Deputies.

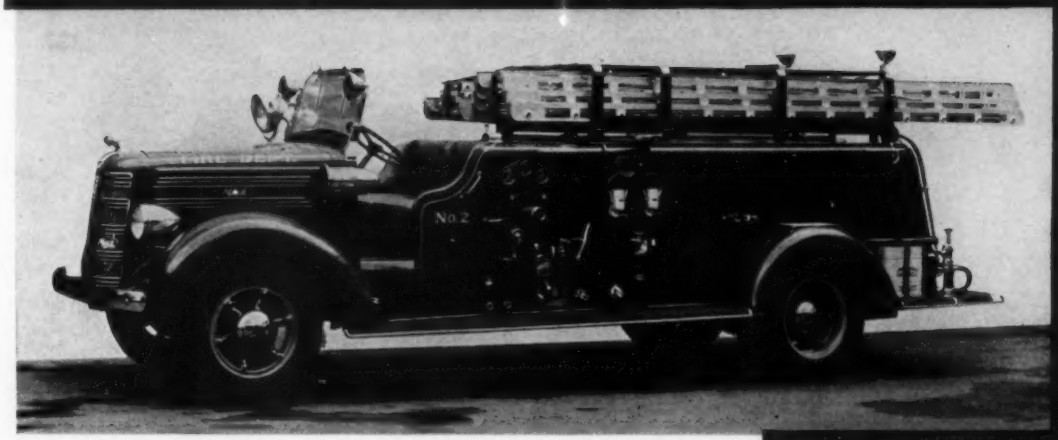
Chief Gordon Cushing, Rochester, and Chief A. L. Martin, Amherst, were elected first and second Vice-Presidents; ex-Chief A. C. Melandy, Nashua, Secretary-Treasurer; and Assistant Chief Joseph Roucher, Laconia, Sergeant-at-Arms.

Chief J. H. Flynn to Retire

Chief Joseph H. Flynn of the Salem, Mass., Fire Department is retiring from active duty, according to an announcement made recently. He has anticipated retirement for some time, but only recently felt conditions were satisfactory for his leaving the department.

Aluminum Ladders MAKE A HIT in Monroe, Washington





CHIEF SKILLEN IS "WELL-SATISFIED" . . . PLANS TO STANDARDIZE ON ALUMINUM LADDERS

Chief D. W. Skillen,, of Monroe, Washington, writes: ". . . I'm very much satisfied with my new aluminum ladders. At first I was skeptical of the 45 ft. ladder without side poles, but having used them I wouldn't have a wooden ladder on my trucks. Later on all of our trucks will be equipped with aluminum ladders."

Chief Skillen's recommendation is typical of other letters we have on file from Fire Chiefs throughout the country. Users everywhere say Aluminum Ladders are tops!

Find out NOW why Aluminum Ladders are better for fighting fires. Write today for catalog and full information.

New truck built for city of Monroe, Wash., by the Mack International Motor Truck Corp. Fully equipped with Aluminum Ladders.

Only ALUMINUM LADDERS Offer ALL these Advantages

STRONGER—Aluminum Ladders are twice as strong as ordinary ladders. Furthermore, they bend (rather than break suddenly) when overloaded.

LIGHTER—Aluminum Ladders weigh only half as much as the usual type of ladder . . . can be handled and raised faster . . . and with fewer men.

MORE DURABLE—Aluminum Ladders cannot rust, rot, splinter or burn . . . remain safe throughout years of service with practically no upkeep cost.

When ordering new trucks or replacement ladders . . . specify ALUMINUM LADDERS.

Aluminum Ladder Company

200 ADAMS STREET
TARENTUM, PENNA.

Greetings to all Fire Chiefs in Convention Assembled!

Fig. 930—Junior Type Roto-Rays

Fig. 900—2½" Shut-Off Nozzle

May your stay at the convention be a pleasant and profitable one—as we know it will be!

And don't forget when you get back home that Buckeye Fire Fighting Equipment will help you "greet" all fires quickly and efficiently. The Buckeye line is a thoroughly practical one. Its warning signals clear the way by night or day in the heaviest traffic.

There is a complete line of Buckeye Shut-off Nozzles which *will not leak*. There is a size and type for *any* fire department.

There are many other items in the comprehensive Buckeye line. Write for details.

Buckeye Iron and Brass Works
324 East Third Street, Dayton, Ohio

Fig. 946—Fog Tip

Fig. 937 Heavy Duty Exhaust Whistle

Fig. 950—Moto-Ray

BUCKEYE
Shut-off Nozzles · Roto-Rays · Whistles

Fig. 934—Single Hydrant Gate Valve

An Announcement!

TO ALL USERS OF AHRENS-FOX FIRE APPARATUS

TO the many friends and users of Ahrens-Fox fire apparatus we take pride in announcing that The Ahrens-Fox Fire Engine Corporation, Cincinnati, will continue to supply parts and furnish service where needed.

In the metropolitan New York area Ahrens-Fox service will continue under the capable direction of Frank Griesser.

In the New England states Ahrens-Fox service will, as in the past, be directed by Gordon Litchfield.

The Ahrens-Fox organization includes members of the former Ahrens-Fox executive staff as well as the skilled craftsmen who have grown up in the Ahrens-Fox tradition.

THE AHRENS-FOX FIRE ENGINE CORPORATION
Cincinnati, Ohio

Correspondence

Use of the Maltese Cross

To the Editor:

In recent issues of FIRE ENGINEERING there have been some most interesting "Fire Facts" about the maltese cross as used for Fire Department insignia.

I have been searching available records to find the first use of the maltese cross in the fire service and believe that this use originated with the 1865 Rules and Regulations of the Metropolitan Fire Department of New York City. The cap device for firemen was prescribed to be "a white metal maltese cross with the emblem of the department in the center and the letters M.F.D. and number of the wearer on the points." This was not, however, a maltese cross, and neither was it the design of cross now used by the New York Department. It more nearly resembled the Greek cross as used in New England departments.

The present design of badge and cap device of the New York Department was adopted in 1870 when the Fire Department of the City of New York succeeded the Metropolitan Fire Department. The device as modified in 1870 is probably most accurately described as the cross patee, but the term "maltese cross," as erroneously applied in the Regulations of 1865, has come into universal use to describe the ensignia of the fire service.

The trumpet as insignia of rank seems to have been first used in 1868 by the Metropolitan Fire Department. The Bill of Dress as then issued prescribed that the trumpet insignia was to be embroidered in gold bullion on caps and coat lapels, the color of the background to indicate the branch of the service—blue for Chief Officers, red for Ladder Company Officers, light green for Chemical Companies, and black for Engine Company Officers. Many departments, notably Chicago and other mid-western departments, use the trumpet as insignia for all officers, indicating the branch of service by the color of the background, as originally prescribed for the New York Department. This seems less confusing and more "uniform" than the trumpets, axes and life guns, now worn by company officers in many eastern departments.

It may be interesting to note that the red flannel shirt as an item of uniform clothing did not disappear from the Fire Department, New York, until 1869. and that until 1877 Chief Officers wore white-face buttons.

CLARENCE E. MEEK

More on the Berkeley, Cal., Reservoir Fire

To the Editor:

Berkeley, Cal., recently experienced the largest individual roof fire in its history. This one fire involved a wooden, tar and gravel roof, four and one-half acres in area.

At 8:12 a.m., a fire alarm was sounded for the Berryman reservoir which is located in a thickly populated residential area. It is one of a chain of such storage facilities serving Berkeley and other East Bay cities located on the east shore of Bay.

At the time of the fire, the reservoir was empty. WPA crews, who had been engaged during a six-month period in resurfacing the concrete lining and constructing a new roof covering, were putting on the finishing touches of the tar and gravel roof decking. For some unexplainable reason, a large tar pot, being heated by means of a kerosene-burning unit, was upset on the easterly rim of the reservoir. This ignited not only the hot tar, but the wood structure as well. Some burning tar ran down the side walls of the reservoir, igniting the roof timbers and supports that rose some seventy-five feet from the floor of the cistern.

Within a very few minutes, not only the roof supports, but the roof decking itself, all of which had previously been impregnated with creosote, were involved in good proportion by a free burning fire throwing off dense clouds of heavy black smoke. The reservoir was skirted on the west by a runway about 125 feet from the nearest westerly exposure of residences. On the south, exposed residences were approximately fifty feet from the reservoir; on the east and north, trees and shrubbery were about twenty feet distant from the edge of the fire.

Weather conditions at the time were ideal, with no wind blowing. Usually, at this location, Berkeley has a prevailing northeast wind that would have been a serious factor to cope with.

A 750 gpm. Engine Company, a combination hose and chemical engine, one 214 gallon, 200 gpm. tank wagon, one rescue squad car, and Assistant Chief responded to the first alarm. Available hydrants in this particular area are sufficient with static pressure ranging from 80 to 135 psi.

With the sounding of the first alarm, I stepped from the door of my home and seeing the dense volume of smoke and recognizing the existing hazard to the community, I sounded a second alarm. This alarm brought in one 1,000 gpm pumper, a combination hose and chemical truck, a 300 gallon, 200 gpm tank truck, a city service truck, the Deputy Chief and myself.

Upon arrival of the second alarm companies, about three-quarters of the entire roof covering was involved with fire. Flames were bursting high into the air, throwing off tremendous heat which began scorching all exposures. Gasoline tanks of various machinery working on the job exploded, throwing flames all over the roof supporting timbers which added to the intensity of the fire. At 8:25 a.m., I sounded a third alarm, bringing in an additional 750-gpm pumper, a straight hose company, and another 200-gallon water tank with a 200 gpm. pump. All off-shift men responded, and these, along with the working shift, made a total of ninetv-two firemen working to subdue the blaze.

The first concern of the arriving companies was to cover exposures. All chief officers working on the job realized the possibilities of a repetition of the Berkeley shingle roof conflagration of 1923, should the buildings on this high point of the city become involved.

One hour and twenty-six minutes after the sounding of the first alarm, the fire was under control, but mopping up and wetting down operations lasted to 3 p.m.

Both Chief Brennan of San Francisco and Chief Lutkey of Oakland sent apparatus and men to assist Berkeley, if necessary. Fortunately such services were not required.

The loss figures in this spectacular fire totalled $75,600.

CHIEF JOHN S. EICHELBERGER
Berkeley, Cal.

A Birth Amid Flames

To the Editor:

A still alarm took a pumper to a house in Fredericton, New Brunswick, Can., to look after a bad chimney fire. On arriving at the scene of the fire, we were amazed to see a doctor's car and nurses' cars in front of the house.

The driver and myself did not notice certain activities in the room next to the kitchen until it was necessary that I enter it to find the chimney cleanout. On entering, I took in the situation at once. A child had been born while we were working in the kitchen. I started to back out, but the nurse suggested I see the baby. She picked it up and asked me to hold it. Of course I did not as I thought it might break. I am more familiar with hose than babies.

At any rate I had to see it. When the nurse lifted the blanket from its face, he let out one big bawl, and I said "There is a future fireman." The mother was very pleased about the whole affair, especially when I appeared on the scene the next morning with a brand new fire badge with Hose No. 2 F.F.D. engraved on it, and presented it to the mother for the ten-pound boy fireman.

CHIEF K. A. WALKER
Fredericton, N. B., Can.

Abandoned Gasoline Tanks a Menace

To the Editor:

We have found in our city a number of abandoned tanks, that were formerly used at gasoline filling stations. Our attention was drawn to this condition by an explosion, caused by children playing with matches around one of these abandoned stations. One of the tanks has been in the ground since 1914.

These tanks require anywhere from one to five thousand gallons of water to fill. We fill them with water and then drive a wooden plug in the opening so tightly that no person could remove it without considerable labor.

In my opinion these facts should be brought to the attention of the Fire Chiefs throughout the country. In so doing, it may avert an explosion followed by fire and possibly loss of life.

CHIEF EDWARD T. ROSE.
Wheeling, W. Va

Spring Clean-Up Campaign

To the Editor:

We have found that the best way to combat a fire is to fight it before the fire starts. Our local Junior Chamber of Commerce sponsors a spring clean-up campaign each year. During this week, the importance of removing the accumulation of the winter's junk and rubbish from in and around homes is brought to the attention of the public. This is accomplished through articles in our local newspaper, over the local radio station, and many talks given at schools, churches, club meetings, and other gath-

erings, outlining a method of procedure in this clean-up work.

Frequent and thorough inspections are made in the business district throughout the year. We have increased the number of these inspections, and it has worked out to very good advantage. We find that the general public is very willing to cooperate with the Fire Department in removing the causes of fire.

We also find that the owners of large buildings, which contain fire hazards, are willing to remedy these conditions when they are explained to them by the Fire Department. Just recently we were able to have an owner of a large five-story building, which had become quite a fire hazard, and which was located in the middle of the business district, tear down this building and replace it with a modern building made of fire resistant material.

Our local Senior Chamber of Commerce has a Fire Prevention Committee which works with the Fire Department in making the general public fire conscious, resulting in homes being made more fire-safe.

CHIEF OWEN A. OWENS
Ogden City, Utah

New Pumper for Cork, Ireland

A new triple purpose pumper, built to the design and specifications of Chief Officer William Monaghan, of Cork, Ireland, Fire and Ambulance Department, has been placed into service in the Cork Fire Department.

The engine contains a 1,000 gpm pump which is self priming and which allows water to be picked up from either the off or the near side and from the front of the machine. It has a first aid pump supplied by a sixty-gallon tank. There is seating capacity for the driver and the officer at the front and for twelve men inside the vehicle. The body is enclosed to protect the men against weather and traffic. A special axle and gear ratio enables the truck to climb gradients of one foot in three and one-half feet.

The equipment carried aboard includes a sixty-five foot ladder, an electric saw and drill, shallow water diving suit, acetylene cutting apparatus, about 5,000 feet of flaked and rolled canvas, and rubber lined hose, a ten-ton jack for freeing trapped people, a horse sling for lifting horses from slippery streets, and a five way hydrant breeching piece. Akron Multiversal branches and Akron Vapour branches and extension pipes also compose part of the equipment.

Volunteer Firemen Convicted

Four members of the volunteer fire company in the Stratfield district of Fairfield, Conn., described by their attorney as victims of the "doctrine of psychological heroism," were convicted of arson on May 27 in the Fairfield Town Court and sentenced to sixty days in jail. The cases were later re-opened and the youths were sentenced to twelve days in jail and one year's probation.

The Plan for Starting Fires

Police Sergeant Charles Gandorf arrested the young volunteers after a shed had been set on fire. The court was told that they also had admitted setting a series of grass fires by tossing lighted cigarettes with matches tied to them into the neighborhood fields. When the cigarettes burned down to the matches, they would light and set fire to the grass. The matches were bound to the burning cigarette by a rubber band, which snapped when the flame reached it and shot the lighted matches into the grass.

Attorney Daniel E. Brennan, Bridgeport, who represented the firemen and asked for a suspended judgment, stating to Judge N. E. Ostmark that the defendents were not arsonists but victims of a "doctrine of psychological heroism." He pointed out that the men possessed fine records in the fire company. A resolution was offered to the court from the Stratfield Fire Company's Executive Committee describing the "excellent conduct" of the four.

Herbert L. Cohen, Prosecutor of the Fairfield Town Court, said he regretted the necessity for pressing the charges, but he pointed out that a fireman had been injured while responding to an alarm at one of the fires, that property and life are endangered whenever an alarm is sounded, and that the town must pay the cost of answering each alarm.

THOMAS F. MAGNER

Chief Edward E. Chase Dead

Edward E. Chase, veteran Chief of the Lynn, Mass., Fire Department, died suddenly at his home from what was believed to be a heart attack.

Chief Chase was born in 1862, and was appointed as a substitute call man in 1885. He became a regular call man three years later. In 1897, he was made a call Captain. He became Chief of the Lynn Fire Department in 1912, and retired on pension in 1931.

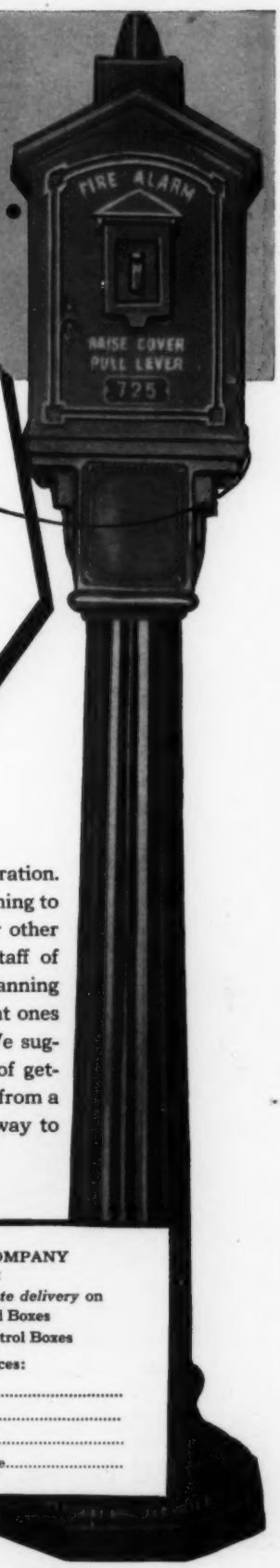
During the nineteen years that he served as head of the Lynn fire forces, he had to contend with many serious fires, especially in the factory district. Under the administration of Chief Chase, the department was completely motorized, and many other improvements were made in the service. He was a member of the Fire Chiefs' Club of Massachusetts, the Massachusetts State Firemen's Association, the New England Association of Fire Chiefs, and the International Association of Fire Chiefs.

Correction

In an article entitled "Rockwood to Build Fognozl," which appeared on page 291 of the June, 1940, issue of FIRE ENGINEERING, the inference might be drawn that the Fog Nozzle Company of Los Angeles, Cal., is no longer manufacturing fog nozzles. This is incorrect. The Fog Nozzle Company has made arrangements with the Rockwood Sprinkler Company, which gives the latter company the exclusive right to manufacture and sell fixed installations, and has licensed them to manufacture the portable unit. The Fog Nozzle Company will still manufacture and sell the portable type.

The 1,000 Gpm Pumper Recently Placed in Active Service in Cork, Ireland

Avoid Delays in Your FIRE-DEFENSE PROGRAM... GraybaR offers



IMMEDIATE DELIVERY on HORNI Fire Alarm Boxes

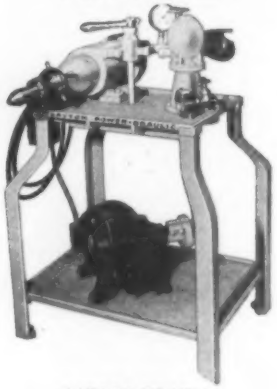
With the nation's productive facilities facing upsetting emergency demands, why risk delay and possible difficulty in securing these essential items for defense against fire later on. Right now, you can get *immediate delivery* on Horni Fire Alarm Boxes, via GRAYBAR. » » » In both the Standard and "Compositrol" types, Horni Boxes have security features found in no other box. Positively non-interfering, they have been designed with simplicity which reduces maintenance costs as well as assuring trustworthy operation. » » » There's extra security, too, in coming to GRAYBAR for fire alarm boxes — or for other alarm and signaling equipment. A staff of specialists with broad experience in planning new systems or in modernizing present ones is also immediately "on call". » » » We suggest you act now, while you're sure of getting dependable equipment promptly from a fully-qualified source. It's the safest way to be prepared. Just mail the coupon.

GraybaR QUALITY SINCE 1869 — *Everything Electrical* — GraybaR ELECTRIC COMPANY

GRAYBAR ELECTRIC COMPANY
Graybar Building, New York
We're interested in *immediate delivery* on
. . . . HORNI ☐ Standard Boxes
. . . . HORNI ☐ Compositrol Boxes
Please send information, prices:
Name.....
Dept.....
Address.....
City.....State.....

STREAMLINE
the equipment for the care of your
FIRE HOSE—

DAYTON
Power-draulic
EXPANDER
HOSE TESTER
EXPANSION RING
EXTRACTOR



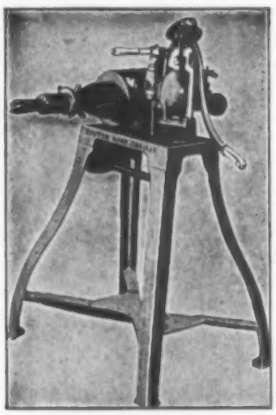
MOTOR DRIVEN
With ¾ h.p. gear head motor.

EXPANDS couplings from ¾" to 6" suction size. TESTS hose up to 700 lb. pressure automatically. No manual effort required. REMOVES old rings from couplings without use of hammer and chisel.

Segments furnished for any hydraulic expander:

¼"—1"—1¼"—1½"—2"	each	$17.50
2½"—3"—3½"	"	20.00
4"—4½"	"	25.00
5"—6"	"	30.00

DAYTON HAND DRAULIC EXPANDER—Hose Tester—Extractor



HAND OPERATED

Write for Big Illustrated Bulletin

Repair and Replacements on your Old Hydraulic Expander or Liberal Allowance on the purchase of a new machine.

DAYTON FIRE EQUIPMENT CO.
1242-48 WEST 2nd STREET
DAYTON, OHIO

TENTATIVE PROGRAM FOR THE I. A. F. C. ANNUAL CONVENTION

Schedule of the 68th Yearly Conference to be held at Spokane, Washington, August 5 to 8

FOLLOWING is the tentative program of the convention of the International Association of Fire Chiefs to be held at Spokane, Wash., August 5 to 8.

Monday, August 5

Registration 8 a. m. to 9:45 a. m.
Conference called to order at 10 a. m.
Invocation: Address of Welcome; Response to Address of Welcome; President's Message; Announcements; Memorial Service; Adjournment for lunch.
Afternoon, 2 p. m.
Roll Call: Adoption of Minutes of Preceding Meeting; Appointment of Committees; Report of Secretary-Treasurer; Report of Board of Auditors; Reading of Communications; Reports of Sectional Organizations; Reports of Standing Committees.
Topic No. 1: "Hazards of Fire Fighting in Community Food Preservation Plants," by H. T. Orebaugh, Engineer, York Ice Machinery Corporation.
Topic No. 2: "Fire Hazards of Spray Application of Finishing Materials" by H. E. Newell, Assistant Chief Engineer, National Board of Fire Underwriters, and Mayor of Bloomfield, New Jersey.

Round Tables:

(a) How can we handle the fire fighting problem brought about by windowless, air conditioned buildings?
(b) Would the use of dry sprinklers and fire detection systems solve the church tower fire protection problem?
(c) Of what practical value are openings, fitted with deadlights or covers, on ground floors over basements stocked with inflammable goods?
(d) Is the fully enclosed, or partly enclosed, fire truck the more practical and useful?
(e) What place has the use of photography by the Fire Department in the fire service?

With the Manufacturers—Each exhibitor is given three minutes to discuss his products.

Tuesday, August 6

Morning, 10 a. m.
Topic No. 3: Report of the Committee on Preparation for War Emergencies—Chief W. H. Palmer, Charlotte, N. C., Chairman.
Topic No. 4: "The Work of the Fire Service During and Following Air Raids," by Fred Shepperd, Editor, FIRE ENGINEERING.
Topic No. 5: Symposium on Protection of Essential Industries During War.
(a) Protection of Lumber and Wood Products Plants. (Discussion led by Chief William Fitzgerald, Seattle, Wash.)
(b) Protection of Grain and Food Products Plants. (Discussion led by Chief Earl A. Traeger, Minneapolis, Minn.)
(c) Protection of Meat Packing Industry. (Discussion led by Chief Arthur W. Olsen, Omaha, Neb.)
Afternoon, 2 p. m.
Topic No. 6: "How the Fire Service Can Cooperate in Reducing Wartime Sabotage."
Topic No. 7: "What Future for the I. A. F. C.," by Chief Ralph J. Scott, Managing Director, I. A. F. C.
Topic No. 8: Round Tables
(a) What wartime fire protection precautions are being taken today in the Automobile industry?
(b) What added protection is recommended for the shipbuilding industry, in view of recent war developments?
(c) What can we do to make city officials conscious of the immediate need for strengthening the fire service?
(d) Are we doing anything to strengthen the fire protection of the petroleum industries and to guard against heavy losses therein?
(e) What experiences have you had with underground leakage of gasoline from buried tanks? How can such hazards be checked effectively?
(f) Have you had any recent fires involving buildings equipped with air conditioning systems, and which showed the need of, or value of, installation regulations designed to check the fire hazard thereof?

Wednesday, August 7

Visit to the Grand Coulee Dam.

Thursday, August 8

Morning, 10 a. m.
Report of Constitution Revision Committee; Unfinished business; Report of Secretary on Attendance; New Business; Selection of next year's Convention City; Election and Installation of Officers; Final Adjournment.
Entertainment
Monday Evening: "Spokane Night."
Tuesday Evening: "Gamewell Night."
Wednesday: Grand Coulee Dam.
Wednesday Evening: "Grand Coulee Dam Night."

War Fare

(*Continued from page* 351)

It was 8.55 a.m. when box 5695 was pulled. Twenty-one other boxes were also pulled, and scores of telephone calls all but crippled the Queens F. D. switchboard. Eng. 304 and 301; trucks 162 and 150 and Chief Costello responded. At 9.02 police telephoned a fire alarm for the blaze around the corner, and the dispatcher special called Eng. 317, Truck 165 and Chief (Acting) of 53rd Batt. to Box 5604 (Act. Chief Frank Rubino). Division Chief Steve Mack of the 13th responded as did Mayor LaGuardia, Deputy Chief Ray George, Acting Chief in Charge Pat. Walsh, Fire Marshal Brophy and Major Tim Mahoney, chief fire alarmer of Queens. At 10.32 a.m. Rescue 4 was called. The fire fighters devoted their attention to

the occupants of the burned homes and managed to confine flames to the seven homes that were set afire in the crash. One plane was reported to have 450 gallons of gas in its tanks. The two big bombers scattered burning debris over a wide area and their human cargo, all but two of whom crashed with the planes, were dead before the firemen arrived on the scene. Parachutes of two who were said to have escaped from planes were ineffective and both men became human torches, one of them crashing through a house, setting it afire.

The spectacle caused fire alarm boxes to be pulled for a mile square. Quick thinking on part of dispatchers and fire officers prevented what might, in some other less organized city department, have caused utter confusion.

Silence is Golden

In the Pittsburgh area, a campaign designed primarily to caution Pittsburghers engaged in steel manufacturing and heavy industries to be on guard against careless talk that might prove useful to foreign interests, has been started. Very commendable, it is brainchild of young advertising man, Bob Post, and has the cooperation of local interests, including newspapers which give space to the messages, Inconsistency, however, is found in fact that the very papers which urge that "silence is golden" print Government released information about placing of war orders with Pittsburgh area manufacturers and others. Why ask workers in plants to button up lips when Government and newspapers are doing just the reverse?

Quite a few members of the Boston Sparks attended the New England Chiefs Convention at Dixville Notch, N. H., last month. The buff clubs of New England are regulars at all fire service gatherings in that part of the country.

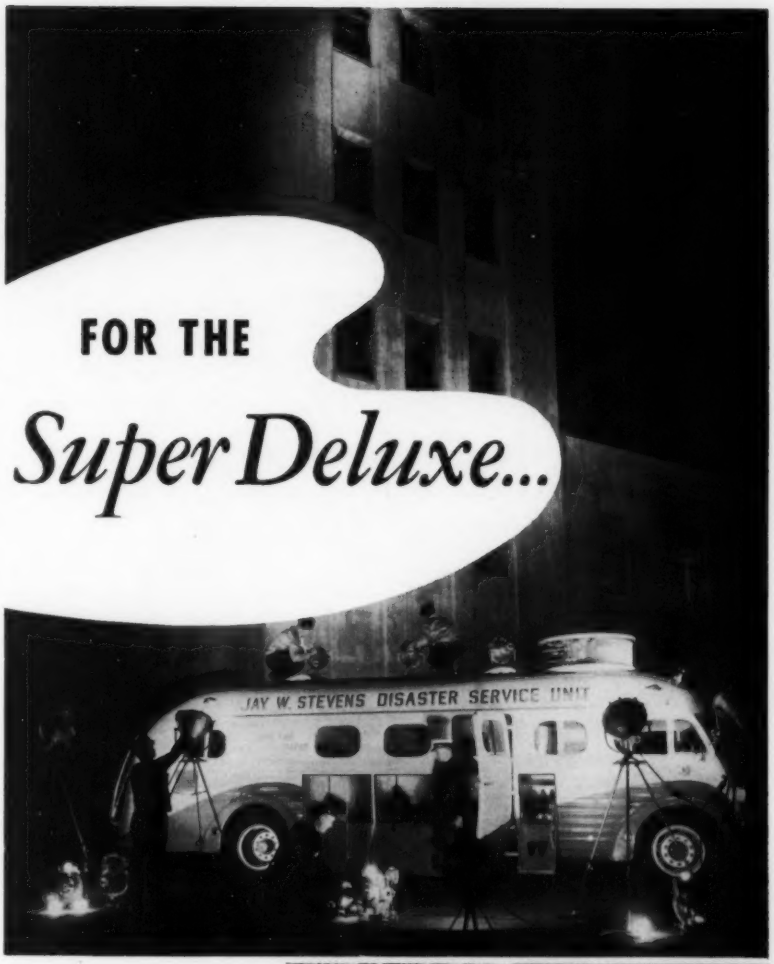
New York City was represented by Honorary Deputy Chief E. G. Stillman, and Gordon Mullins.

James Jackson, Oswego, N. Y., was a recent visitor at the Fire Bell Club in Manhattan. With him were Gus Johnson, Boston; and Grant Miller, Bloomfield, N. J. The buffs also visited the quarters of Engine 31 and the Smoke Ejector, 87 Lafayette St., Manhattan.

Ontario Shows Low Fire Loss

In the nine months of the war period, from October 1, 1939 to June 30, 1940, the fire loss in factories and manufacturing plants in Ontario, Can., has totalled $496,287. This represents a substantial reduction in the industrial fire loss, despite the fact that many industries are now operating at a much greater capacity thereby resulting in greater quantities of stock both finished and unfinished being on hand.

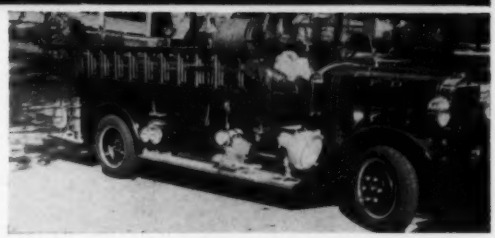
Only one incendiary fire in an industrial establishment in Ontario has been reported in this nine-month period, in which a relative of the occupant of the building was charged with arson. There have been no instances of sabotage or attempted sabotage by fire or explosion during the war period, with the possible exception of the firing of a freight car containing airplane engines, which case is still under investigation.



FOR THE

Super Deluxe...

or the Good Old "Every-day" Truck



Homelite Portable Floodlighting is practical for all departments—large and small. It's low in cost, but it provides all the brilliant floodlighting necessary to make night work safer and more efficient. Moreover it's flexible. The Homelite Generator weighs only 82 pounds complete with built-in gasoline engine. One man can carry it and set it up any place. No long cables necessary. Yet it generates 1800 watts with a constant automatically-held 110 voltage.

Thousands of departments depend on these rugged, handy units for floodlighting night fires. Most departments find one unit sufficient—New York uses almost one hundred. Send for illustrated bulletin.

HOMELITE

Portable Floodlighting

HOMELITE CORPORATION, 807 RIVERDALE AVENUE, PORT CHESTER, N. Y.

PAT. APP. FOR

What the fire field has needed for years

SEALAND

Ball-and-Socket Joint

BOOSTER HOSE COUPLING

—Joint is flexible — allows hose to reel compactly and smoothly.

—This flexibility permits reeling on more hose.

—It lays snugly and smoothly between the coils.

—It cannot pinch hose at the coupling.

—Maintains full waterway regardless of diameter of reel.

—Order one of these couplings today — they are moderately priced — and if not more than satisfied, purchase price will be refunded.

●

Booster Hose is now available, with SEALAND Booster Hose Couplings already attached, in package units of 50 and 100-ft lengths.

●

TRADE-IN ALLOWANCE
ON
YOUR OLD BOOSTER HOSE

THE SEALAND CORPORATION
BRIDGEPORT, CONN.
Modern Fire Apparatus
Fire Alarm Systems

Eastern Chiefs Meet

(*Continued from page 333*)

casion being an earthquake while he was Chief of the Los Angeles Fire Department. One hundred fires broke out in five minutes, but were all taken care of. Soldiers and marines were distributed throughout the quake area and passed alarms down the line to the firemen.

Need for Cooperation

Alfred N. Minor, Past-President, National Fire Protection Association, talked on closer cooperation between the I. A. F. C. and the N. F. P. A. He then introduced R. M. Cadman, Superintendent, Engineering Department, Schedule Rating Officer of New Jersey. Mr. Cadman described leakage from underground storage tanks. In one instance, gasoline ran into a manhole for a month, and all efforts to trace the source were unsuccessful. Finally the manhole was filled in. Tracing of gasoline leakage by coloring the gasoline in suspected tanks is not always successful. Mr. Cadman told of one instance where the color of the gasoline was changed by the chemical action of the earth.

Hydraulic pressure is the recommended method for testing underground gasoline tanks. Clay around a tank will not hold water in a water test of a tank.

War and Taxes

Director George Fairley, Pittsburgh, spoke of the effects on the fire service as war conditions send taxes up. Director Fairley said that incomes for fire departments will decrease. Mrs. Mary W. Kobus, Vice-Mayor, Camden, N. J., also commented on the curtailment of fire department incomes. She declared that the fire insurance companies should help the fire departments when the department budgets are slashed.

A talk on the care of oxygen cylinders was presented by Ray Cornwall, Kerotest Company. Mr. Cornwall said that his inspections have shown inhalator and cutting cylinders to be obsolete in many cases. Cylinders should be reannealed every five years. The constant charging thins the walls of the cylinders.

A dinner was held for the Chiefs and their guests in the Ball Room of the Hotel Du Pont, Friday night. Several acts were presented for the enjoyment of the guests.

The Saturday session was opened with an address by Chief Ross Davis. He remarked that the Eastern Association includes some of the largest fire departments in the world. All these cities are represented in the association. The association has in its possession a vast amount of knowledge. To better utilize this knowledge, an increase in dues from $1 to $2 a year should be considered by the membership.

On the motion of Assistant Chief Cohen, East Orange, N. J., Secretary Charles Clark was donated the sum of $100 by the association, in appreciation of his services during the year.

Next Convention at Lancaster

After due consideration, it was voted to hold the 1941 conference of the Eastern Association of Fire Chiefs at Lancaster, Pa.

It was announced that the International Association of Fire Chiefs is preparing revised by-laws, to be presented at the Spokane convention. Members are urged to send in their suggestions for revisions. Suggestions should be sent to Chief A. J. Baker, Lewistown, Mont.

In his acceptance speech, the new President, Deputy Chief John J. T. Waldron gave his definition of a fireman.

Said Chief Waldron: "I make no distinction between paid, part-paid, call-men, or volunteer. Their locality establishes their status: they are all firemen." Chief Waldron appointed Chief Ross Davis to be his representative on the Board of Directors of the I. A. F. C., as their by-laws make it necessary for Directors to be Chiefs of Departments.

List of Exhibitors

Among the exhibitors at the conference were the following:

American Dist. Tel. Co., display included Aero System, sprinkler valve alarms, and manual boxes. F. M. Doorley was in charge.

Ansul Chemical Co.; exhibited DuGas extinguishing systems, using the dry powder method of extinguishment. Raymond G. Clark represented the Ansul Co.

Federal Electric Co., Philadelphia, Pa.; represented by Nat Alexander. The Federal display included their apparatus sirens.

Smith Indian Fire Pumps, Utica, N. Y., were exhibited by Carl Getz.

The Kerotest Co., Pittsburgh, exhibited their portable cutting torch outfit, under the direction of Ray Cornwall.

Mine Safety App. Co., Pittsburgh, exhibited their line of first-aid and rescue equipment. They were represented by J. G. Gaskill and E. C. Brainerd.

The E. & J. Co., Glendale, Cal., exhibited their E. & J. Resuscitator. R. A. Phillips was in charge.

Hale Fire Pump Co., Conshohocken,

(*Continued on page 374*)

N. E. Chiefs Convention

(*Continued from page 330*)

service for handling the many fires started during air raids. This topic was discussed at length by the delegates.

The Fire Service in 1950

Fire Commissioner William Arthur Reilly of Boston, in his talk on "A Prophecy for 1950" discussed the increased traffic congestion and the possible future correction of this serious problem in fire department operation. He believed that in the next ten years super-highways would be a big factor in correcting this growing problem.

Within the same period, the development of new building codes as well as educational legislation would develop fire prevention as applied to buildings very materially. He also believed that radio would prove a major aid to conventional fire alarm systems in the next decade, with the possibility of television (recording of messages on tape) entering the picture.

That fire alarm systems would be extended to practically every room of every building, or at least to one place in each building, was his prediction for the next ten years. He suggested that possibly each house might be equipped with three signal buttons, one to call help in case of accident, one to call the police, and the third to summon the fire department.

In ten years' time the two-piece fire company would be a thing of the past, and in its stead, a single unit which includes the pumper, hose and possibly ladders, would be generally adopted. Also, the tillerman on the aerial would vanish due to the use of shorter, multiple section, power operated ladders.

Within the decade, Commissioner Reilly believed, fire protection in rural areas would be materially aided by the use of airplanes for fire fighting operations.

While water will remain the principal extinguishing agent, new chemicals, he ventured, would be developed for handling fires involving specialized hazards.

Storage of Explosives

Stephen C. Garrity, State Fire Marshal, Commonwealth of Massachusetts, outlined the program placed in service in his state which has resulted in the location and indexing of every place of storage of explosives. This continual inventory enables the State Fire Marshal's Office to know at all times just how much explo-

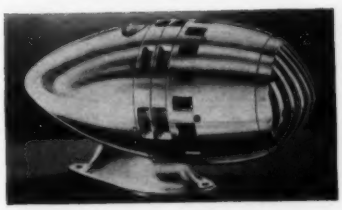
H. O. R.

Headquarters For

Electric and Mechanical Sirens, Electric Bells, General Alarm Systems, Hand Flashlights

The New **ELECTRO-BELL**

For motor fire apparatus, it is the only fire bell ever developed to operate electrically from instrument panel or floor board. Immediate response—louder sound. Uses less current than one headlight bulb. Electrical unit can be supplied for your present bell.



COMMANDER LIGHT

Siren and light combined. A touch of the button and you get a flashing red light and the long-range siren roar. Flashing light independent. Full chrome, with or without grille. Long rolling.

SIRO-DRONE

A vertical general alarm that resists any kind of weather, and salt air has no effect upon it. Type 93—3 h.p.—shown above, has a range of 3½ miles; also built in 5 and 7½ h.p. They are so thoroughly well built that we guarantee them for 7 years.

MECHANICAL SIREN

Bolted to motor block, it is driven by independent belt and requires no electrical energy. Tone increases with speed of car, and pierces the heaviest traffic. Simplicity of construction makes it one of the most dependable sirens made.

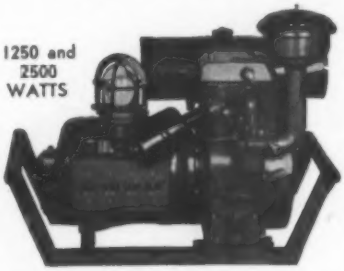
Write for Bulletins

H. O. R. CO. INC., 10 BROAD STREET

STAPLETON, STATEN ISLAND, N. Y.

"U.S."
PORTABLE
LIGHT PLANTS

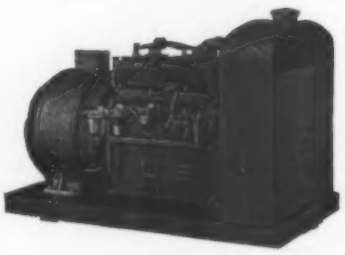
1250 and 2500 WATTS



This 1250 watt, portable unit has been designed expressly for fire department use. It is small, light, compact and equipped with carriers for easy portability out on the job. Air-cooled 4-cycle engine 2⅝" bore x 2⅝" stroke. 2.4 H.P. 2 gallon fuel tank. Quick starting. Also 2500 watt size.

Write for catalog

We are builders of the world's most complete line of Electric Plants. In all parts of the world —arctic expeditions or tropical plantations — U. S. plants have proved their steadfast dependability. And the reason: "U. S." generating sets are designed to meet the conditions under which they will operate.



LARGER SIZES

Larger sizes are available. Illustration above is 5 KW 4-cylinder Portable Unit. Automatic remote control. Write for complete information.

Also automatic emergency units for alarm systems.

UNITED STATES MOTORS CORP.
430 Nebraska Street, Oshkosh, Wis.

sive is on hand at the various locations. Such an arrangement prevents the loss, or illegal movement, of explosives.

Oil Burner Installation

J. Henry Brody, Vice President, Buckley & Scott Utilities, and President of the Boston Oil Burner Associates, discussed "Evidence of How the Oil Burner Installers are Cooperating with the Fire Chiefs."

On Wednesday evening the annual banquet of the Association was held, with Commissioner Arthur Reilly as Toastmaster. Entertainment program was furnished through the courtesy of the Berlin, N. H., Fire Department. Prizes donated by manufacturers were drawn for by the ladies present.

Newly Elected Officers

Chief Thomas Cotter, Providence, R. I., was elected President of the Association for the coming year and Chief William Mahoney of Peabody, Mass., First Vice-President. Chief Michael Lawton of Middletown, Conn., was elected Second Vice-President and Chief John W. O'Hearn of Watertown, Mass., Secretary-Treasurer. In each case, the election was unanimous, a single ballot being cast for each candidate.

The following State Vice-Presidents were also elected unanimously: Maine, Chief Oliver Sanborn, Portland; New Hampshire, Chief Charles French, Manchester; Vermont, Chief A. H. Koltonski, Rutland; Massachusetts, Chief William Dooling of Malden (Chief Malden is at present out of the department awaiting the outcome of litigation); Rhode Island, Chief A. J. Cote, Woonsocket; Connecticut, Chief Michael Keena, Hartford.

Tierney Becomes a Director

Chief Daniel B. Tierney of Arlington, Mass., was elected Director to the International Association of Fire Chiefs.

Chief William T. Happy of Concord, N. H., was appointed Sergeant-at-Arms, and Charles Madden, Aide to Chief Allen of Brookline, Mass., was oppointed Official Photographer.

Harry Belknap was appointed Press Representative and Vincent C. Stanley, President of the Gamewell Company was appointed Associated Press Representative. Rev. Michael F. Collins was reappointed Chaplain by the Association.

The Directors will decide later on the place and date of next year's conference.

Candidate for Treasurer

Chief George B. Milne of the Rockville, Conn., Fire Department, candidate for the post of Treasurer of the Connecticut State Firemen's Association at the annual convention to be held at Danbury in August, was a guest of the

Chief George B. Milne

members of the Fairfield County Fire Chiefs' Emergency Plan at their banquet at the Hotel Green, Danbury, on May 22. He was introduced to the gathering by Chief Thomas J. Carroll, Fairfield, retiring president of the Plan.

At a recent meeting of the Fairfield County Plan the members voted unanimously to support Chief Milne for the Treasurer's office, left vacant by the recent death of Deputy Chief Michael T. Souney, of New Britain.

Chief Milne has been a member of the association's Executive Board continuously for the past twenty-three years as Tolland County representative. For the past twelve years he has been Chief of the Rockville Fire Department.

THOMAS F. MAGNER

Eastern Chiefs Convention

(*Continued from page 372*)

Pa., had a full size Hale pump on display, in charge of R. B. Sargent and J. F. Partridge.

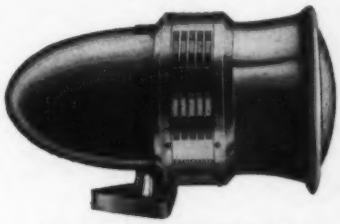
FIRE ENGINEERING was represented by Fred Shepperd, Editorial Director, and Otis Smith.

The Akron Brass Mfg. Co., Wooster, Ohio, was represented by J. M. Love. Their line of nozzles, connections, and ladder pipes were on display.

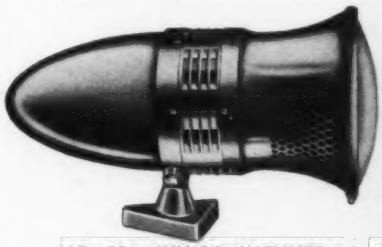
The Superior Fire Equipment Co., New York, exhibited life nets and ladder belts. William Moeller was in charge.

Training Courses Prove Successful

Nearly 400 Fire Chiefs and firemen in Ontario, Can., have attended the various firemen's training courses that have been held within recent months. Books are being made of the lecture material that was presented at these courses and certificates are being granted to the Fire Chiefs and firemen who have successfully completed these courses.



NO. **30** SENIOR SIRENLITE



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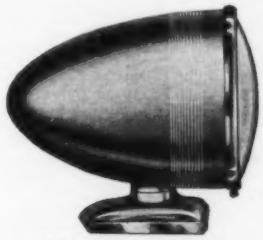

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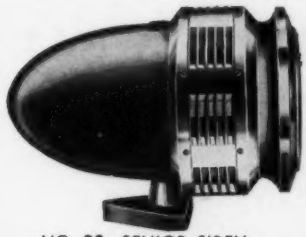
Let Us
SUPPLY
The Exact
STERLING SIREN
for Your
SPECIFIC
NEEDS

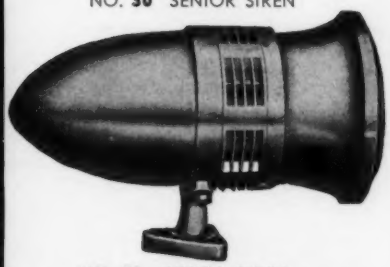
For Your Own Safety—Get the Best! Sterling Sirens are the most scientifically designed and carefully made sirens on the market. That the public recognizes Sterling as the Peer of all Sirens is undisputably proved by our constantly increasing sales.

Specify Sterling Sirens on your new apparatus. Write for complete bulletins.

STERLING FIRE ALARM CO.
Inc.
55 ALLEN ST.
ROCHESTER, N. Y.



NO. **30** SENIOR SIREN



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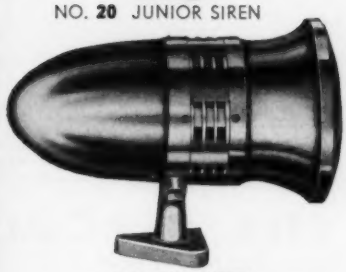

NO. **10** SIREN

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The new Midwestern Safety Coat recently introduced has met with instant success because Fire Chiefs, Firemen, and Safety Boards quickly saw its adoption meant a big decrease in bad accidents.

The picture tells much of the reason for the success of this Midwestern Coat. Firemen can be seen on dark nights—through fog, and smoke. Fewer men will be knocked off ladders and buildings by heavy hose streams . . . will be more easily found in fallen debris.

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Note Chiefs:
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Manufacturers of a complete line of firemen's quality clothing.

Modernize
Old Pumpers
and Make New
Ones Better with

ROSS RELIEF VALVES

THEY are sure-fire protection against shock when starting pumps or shutting off hoze nozzles. A protective heating jacket, connected to either radiator of the engine or the exhaust pipe, prevents freezing. Pressure range to 300 lbs.—capacity, 1,000 g.p.m. Also high pressure valves up to 750 lbs.—capacity, 1,450 g.p.m. Send for descriptive literature covering the entire line of Ross Relief Valves.

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TROY, NEW YORK

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Never has any item of fire equipment been more enthusiastically welcomed and acclaimed . . . decidedly the "hit" of every convention where it has been exhibited, fire chiefs and hose manufacturers who have inspected and installed it are making such comments as these:

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"DOES A SWELL JOB IN 3½ TO 5 HOURS"
"DRIED 2200 FT. TODAY"
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IF YOU ARE NOT SATISFIED

with your present facilities, or have no hose drying equipment at all it will pay you to inevstigate this labor-saving, time-saving, hose-saving appliance. Contact your hose, apparatus or equipment salesman, or write us direct.

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FIRE HOSE DRYER

The Modern, Mechanical Method that AIR-CONDITIONS as it Dries.

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Rotary or Centrifugal, they are built in all standard capacities.

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TO FIRE CHIEFS EVERYWHERE!

When You Insist on the COLT Shut-off Nozzle You Are Sure of Getting the Best Nozzle Made

The COLT nozzle is the easiest to operate — will stand the most severe test of strength and durability.

IT IS BUILT TO LAST
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Furnished in three sizes — ¾" and 1" for chemical hose, 1½" for leaderline work, 2½" for playpipes. Plain or rubber bumper tips furnished. All shut-off nozzles guaranteed for 5 years.

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MODERN DESIGN FIRE STATION IN SERVICE AT MIAMI BEACH

Unique Features Employed to Serve Fourfold Purpose and yet Blend in With the Residential Surroundings

THE recently completed Fire Station at Miami Beach, Fla., is one of the most complete modern equipped fire stations that has been built recently. In designing this station, Architects, Robert Law Weed and Edwin T. Reeder had to provide for four major services: two fire companies, the city's fire alarm central, a central training station and a residence for the fire Chief. Separation of the four services into distinct but integrated buildings, was the solution to the fourfold nature of the problem. The residential character of the group as a whole results from recognition of the restricted residential neighborhood adjoining the station.

On the first floor of the central unit are the control office, apparatus rooms, storage room, and toilets. From the control room, a single officer directs alarms, telephone calls, and the police radio. On the second floor are the dormitory, Captain's quarters, lounge room, lockers, and toilet and bath facilities.

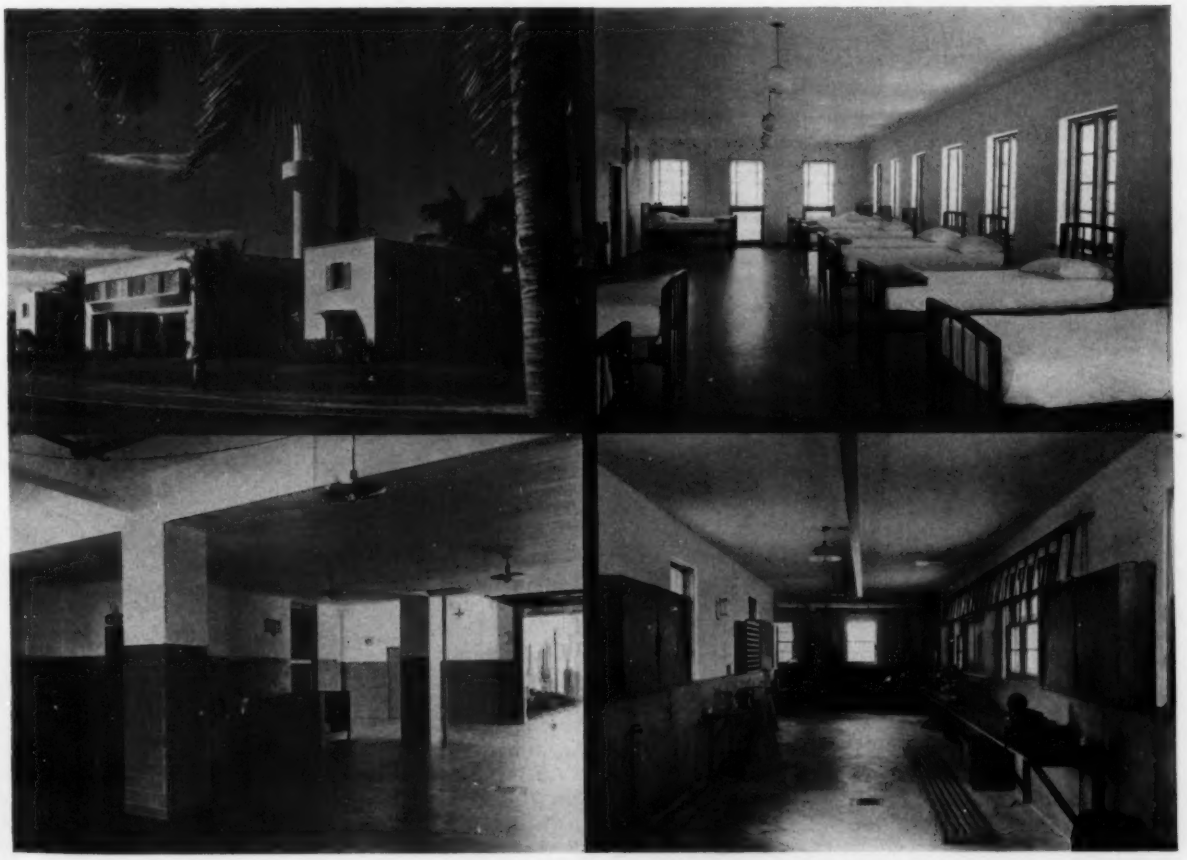
At the rear of this central unit is the six-story drill tower. The two back faces contain pairs of windows at each level which are used for training in the use of hook and ladder and similar equipment. One corner of the tower is open to its entire height. Here long hoses are suspended for drying. In another corner are fire boxes at each floor and a flue with dampers, for studying the action of drafts and smoke.

The first floor of the left-hand wing of the group is a machine and a repair shop. Entrance to this area is from the rear of the building. The city's central alarm system occupies the second floor of this wing and is entirely separate

(*Continued on page* 382)

Chief's Residence Is an Independent Unit

Information and Illustrations, Courtesy "Architectural Record"



Views of the New Fire Station at Miami Beach, Fla.

Upper, left to right, the exterior of the station and the dormitory. Lower, left to right, apparatus floor, and machine shop.

How Fire Defenses Affect Fire Insurance Rates

By A. J. BAKER*

IF a conflagration were to wipe out a large portion of the business section of your city to-night, would it be possible to rebuild the same? This question should place the emphasis on the subject which is my topic, "Fire Defenses and Fire Insurance Rates of a City."

Both are absolutely necessary for the welfare, progress and preservation of every city. Without a uniformly well developed fire defense, a city is at the mercy of a conflagration at all times. Without the assurance of having your fire losses reimbursed by a reliable underwriter, it would be impossible to establish credit to rebuild.

Fire Insurance Credits

Let us briefly analyze the importance of this subject, the relation of one to another, and the absolute necessity for both. It is the opinion of recognized authorities that this subject is one of the major financial problems with which municipalities have to contend. The subject question could be stated, "Fire Defenses as Debit and Fire Insurance Rates as Credit."

The fire defenses of a city are not limited to the operations of the fire department, as most people believe, but are made up of the following seven important factors: Water supply; fire department; fire alarms; police; building laws; hazards and structural conditions. These factors are graded to show the relative strength or weakness of each particular factor and are used to determine the base rate of a city.

Spending Without Planning

Municipalities spend thousands of dollars in repairing and erecting buildings each year. Likewise municipalities spend thousands of dollars developing their water systems to meet the demands of fire fighting necessities. Thousands of dollars are spent annually in operating fire departments. In addition, thousands of dollars are spent annually in enacting and enforcing building and hazard-controlling ordinances. In a great majority of cases, these expenditures are made without a thought of how or why they could or should affect the fire insurance rates of the city.

Inasmuch as the basic rate of a city is directly affected by the lack of development of a city's fire defense, it goes without saying that the municipal administrators should develop all of the major factors which go to make up a city's fire defense, uniformly and extensively.

Facts Regarding Insurance

In developing the question of fire insurance rates, it will be necessary for me to make several general or broad statements in connection therewith, and as I go along I will endeavor to clarify the same:

Fire Insurance Companies do not pay your fire losses.

Fire Insurance Companies do not arbitrarily set or make their fire insurance rates.

You, as a policyholder, a freeholding taxpayer, and city administrator, make your own fire insurance rates.

You pay insurance premiums directly and indirectly, privately and publicly.

Fire insurance rates and fire defenses of a city are so closely related that you should have a general understanding of the application of the same.

Stock Companies

There are several types of fire insurance companies, but for my purpose I will confine my remarks to the regular stock fire insurance companies. These companies are regularly, and efficiently organized, and have provided themselves with auxiliary organizations to take care of the several divisions of the insurance business. One of these is the National Board of Fire Underwriters, which, among other activities, grades and classifies cities on the basis of their fire defenses and physical conditions. There are also rating bureaus which establish rates on property. In addition, facilities are provided for the prevention of loss, the adjustment of losses and other useful functions.

All of these department organizations are manned with a highly trained personnel who are courteous, accommodating and business-like. I have said that the fire insurance companies do not pay your fire losses, because fire losses are figured on a statewide basis and a percentage of all fire insurance premiums collected, go to pay the individual loss. Thus it can be seen that each premium payer pays his proportionate share of the other fellow's loss, and in addition pays a reasonable charge for underwriting purposes.

Application of Grading Schedule

Fire insurance companies do not arbitrarily set or make their fire insurance rates. In this connection I have stated that one of the functions of the National Board of Fire Underwriters is to devise and apply a grading schedule which is used as a yardstick to provide a fire insurance classification for cities. This classification is determined by the number of points of deficiency assessed for conditions that are below the standard prescribed in the grading schedule. For each defect, points of deficiency are charged, and the city with the highest number of deficiency points has the lowest or poorest grading. In other words, the city in which fire protection facilities are considered the most able to cope with fire, and in which the fire hazard is the least, is the one receiving the lowest number of deficiency points.

Under this system, cities are classified in one of the ten following classes, depending upon the total points of deficiency charged against its fire defenses. For example: If a city is in Class 1, it has from one to five hundred points of deficiency charged against it. A second class city has from 501 to 1,000 points, a third class city from 1,001 to 1,500 points, or the total number of points that can be assessed under said schedule. The total possible number of points

*Chief of Fire Department, Lewistown, Mont., and President, Pacific Coast Association of Fire Chiefs. Address delivered before Montana Municipal League, Great Falls, Mont., May 10, 1940.

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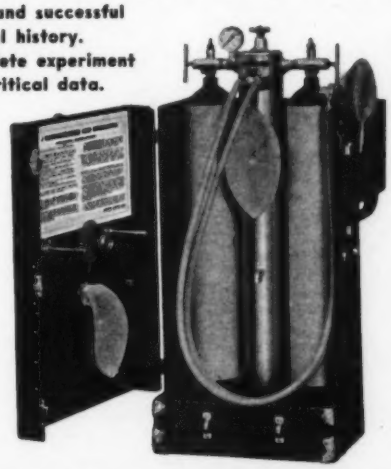
Long and successful clinical history. Complete experiment and critical data.



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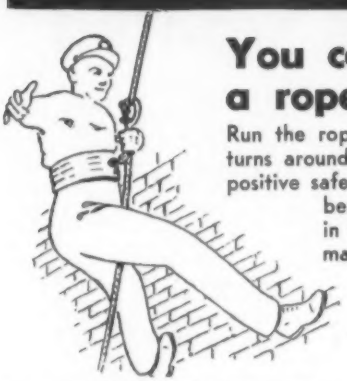
Regardless of the way you want to charge your apparatus batteries, there's a Tungar Charger to do the job; in position, or out of the truck, your batteries will be "right up to snuff" if you let a G-E Tungar Charger take care of them.

Here you see the Tungar one-battery Chargers, the 5-ampere and the 6-ampere. Also—the Tungar 6-battery Charger.

Write for a G-E Tungar Full-line catalog now. Section A-0867, Appliance and Merchandise Department, General Electric Company, Bridgeport, Connecticut.

GENERAL ELECTRIC

THE MORRISSEY LIFE BELT AND HOOK IMPROVED!



You can't get a wrong turn of a rope on a Morrissey hook —

Run the rope through the brake first, then make a couple of turns around the hook and you're ready with one of the most positive safeguards known in fire fighting. The MORRISSEY has been standard in fire departments nearly everywhere in this and other countries for years and now we have made it better, stronger, safer than ever.

DEALERS—The Morrissey Life Belt is famous. Capitalize on its reputation and popularity.

SOME OF ITS FEATURES

—you can't get a wrong turn of the rope on the hook—that makes for absolute safety.
—the only fool-proof hook obtainable anywhere.
—one hand is free at all times.
—can't burn your hands no matter what the load may be.

Made only by

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AUBURN, N. Y.

ONE HAND ALWAYS FREE

While one hand grasps the brake controlling speed of descent, the other is free. And, you can change hands while descending—a feature of great value in rescue work.

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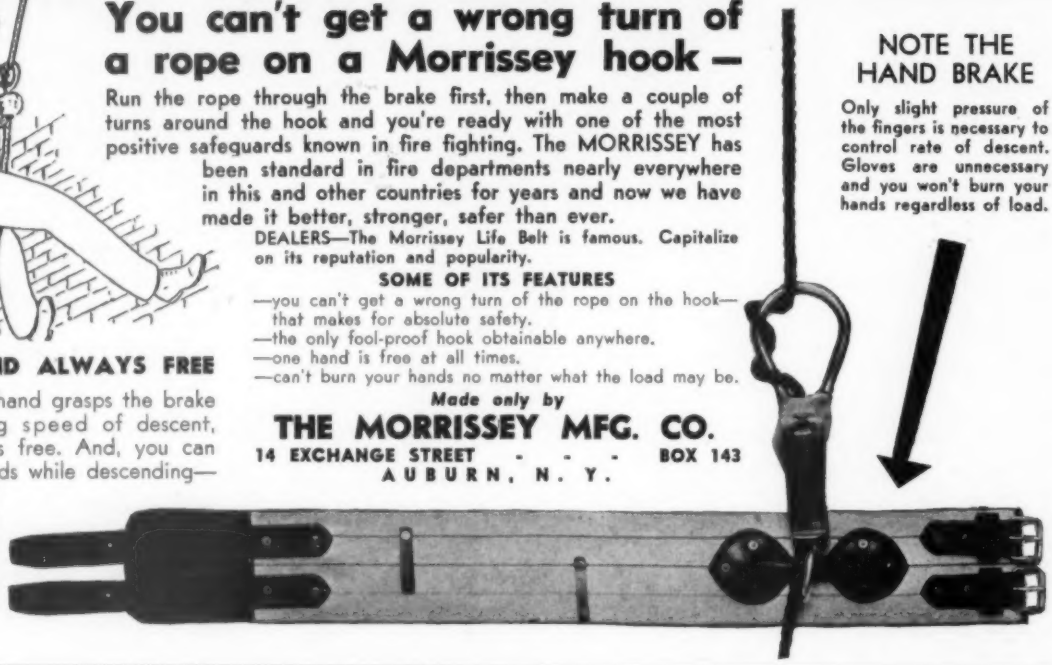
Only slight pressure of the fingers is necessary to control rate of descent. Gloves are unnecessary and you won't burn your hands regardless of load.



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THE AUTOMOBILE FIRE APPARATUS OPERATOR

By ROBERT M. McNEISH

It's a *Real* Bargain!

¶ This book—795 pages profusely illustrated, with cloth binding—is brimful of practical data, in easily understandable form, covering every phase of the construction, care and operation of motor fire apparatus. The subject of pumps alone occupies 186 pages. It is unquestionably the most complete book of its kind ever published.

¶ Publication of the book was suspended by the original publishers following the last edition in 1926, and we have just brought up the remaining copies at a knock-down figure. Hence the special bargain price.

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of deficiency is 5,000; these are distributed over seven major items, as follows: water supply, 1,700; Fire Department, 1,500; Fire Alarm, 550; Police Department, 50; Building Laws, 200; hazards, 300; structural conditions, 700. In addition to the above, climatic conditions and divergency between water and fire departments are considered.

Classification of Factors

Each of these factors, in turn, is graded to show the relative strength or weakness of each particular factor: For example, if you will note the individual grading of the several factors, it will be apparent that the classification of each factor varies as to the number of deficiency points assessed. This goes to show that certain portions of the fire defenses have been sadly neglected, and that the city's general clasification has been penalized because of said condition, to-wit, if the water supply has been penalized from 341 to 510 points, it would be classified as third class. If the fire department penalty was from 751 points to 1,050 points, it would be classified as sixth class. Because of the divergency of the three classes between the water supply and fire department, a city would be penalized an additional forty-five points. Thus it can be seen that upon a city's fire defenses depends, to a great extent, the type of fire insurance classification which you may receive and from the grading of the classification is determined the basis or key rate, which is the foundation or the starting point of all fire insurance rates in the city.

Therefore, inasmuch as a good portion of your tax money goes to establish fire defenses, is it not reasonable to assume that it should be distributed in a way that it would do the most good by benefiting the weak places, and thereby reducing the number of points of deficiency and eventually lowering the city's fire insurance classification.

Governing Rate Factors

You, as a policyholder, a freeholding taxpayer and a city administrator, make your own fire insurance rates. I have pointed out how you as a city administrator and freeholding taxpayer may control your fire insurance rates by the uniform development of the city's fire defenses. In addition to that, you can assist in reducing the fire losses of the state by practicing fire prevention and constructing better types of buildings, and by becoming familiar with your present risks. Correct the hazardous conditions for which you are now being penalized.

To sum up the whole question, we can say that fire insurance rates are predicated upon the following: Low fire loss experience for the whole state over a period of years; the strength of a city's fire defenses; the type of occupancy, and the degree of hazard in connection with the individual building and contents. All of these are factors which you can regulate and which directly affect your insurance rates. You pay fire insurance premiums directly and individually when you insure your property. You pay fire insurance premiums indirectly and publicly when your tax money is used to strengthen the fire defenses of the city. Fire defenses of a city and fire insurance rates are so closely related that you should have a general understanding of the application of the same.

Obtain Classification

I have endeavored to give you some information on how fire insurance companies operate, of what the fire defenses of a city consist, and how your actions as a city administrator, and as an individual, affect the city's fire insurance rates. I trust that I have interested you to the extent that, upon your return home, you will investigate your local conditions and set up a practical program whereby your city's classification may be lowered and thereby reduce your present fire insurance rates. This can be accomplished by getting in touch with the Board of Fire Underwriters of Butte or the engineers of the rating bureau of the same office to ascertain what your present classification is, and the number of deficiency points charged against the major factors of the fire defenses of your city. Compare these with the recommendations as made at the time of your city's last grading. From this point work out an agreed procedure between the rating bureau and your City Council for a definite future program in connection with the development of your fire defenses.

As city officials, we are inclined to meet the problem as it presents itself, instead of planning to meet future requirements. For instance, problems in individual departments such as water, fire, police, building, etc., which affect the fire defenses of a city are treated as department problems instead of a general problem, and in a number of cases, this proves detrimental to good procedure.

All problems in connection with the improvement of the city's fire defenses should be referred to the rating bureau for approval and should be given general consideration by the city administration. Inasmuch as fire department administrators are and should be the moving factors in promoting fire defense improvements and reductions in fire insurance rates, it would not be amiss at this time to touch on fire department activities. Fire departments are strictly emergency organizations and as such should be progressive and self-educational units, to keep abreast with the fast moving times.

Fire Prevention Important

The promotion of fire prevention, the inauguration of vocational instructions, the installation of a fire prevention bureau and the equipping of the department with sufficient modern apparatus and tools, are matters which should not be delayed or overlooked, if you are to successfully meet this issue.

If you are interested in reducing your insurance rates and assisting your city, try the following:

Keep the black spots off your streets (burned buildings).

Keep property on the tax rolls (burned buildings are not taxable).

Practice fire prevention (reduce fire losses).

And make your city a cleaner and safer city in which to live.

Providence Department Reviews History

Eighty-six years ago, in 1854, the Providence, R. I., permanent Fire Department took over the protection of the life and property of the city, superseding the old volunteer department that was formed about a century before. At its organization, the department consisted of eleven companies, each with a jumper hose reel and together with 10,300 feet of leather hose and a ladder company. Today the force numbers 432 paid men.

Since its organization, the permanent department has had twelve Chief Engineers. Thomas Cotter is the Chief Engineer at the present time. He was appointed in 1937.

Chief Klinck Heads Fire Group

The Southeastern Division of the International Association of Fire Chiefs chose Chief Irby Klinck of Memphis, Tenn., as President of the Association. He was elevated to his new office from the first Vice-Presidency.

Other officers chosen were: Chief Lester of Athens, Ga., first Vice-President; Chief Matthews of Tuscaloosa, Ala., second Vice-President; W. W. Stevens, of Anniston, Ala., re-elected Secretary-Treasurer.

At the Dinner

This picture was taken just before the dinner began. The men in the picture are from left to right in the first row: H. A. Fredenburg, C. A. Hamlin, J. T. Conrad, Harry D. Ling, Assistant Chief of the oldtimers; Roy Elliott, present Chief; Eugene Amann, Chief of the oldtimers; C. C. Furnas, present Mayor; T. K. Flynn, H. L. Wilson, J. A. Perry, D. T. Lawton. In the middle row are: Harry Young, C. S. Roberts, W. J. Warner, Roy McConochie, P. C. Bigham, Chef; F. E. Redden, Frank Lindley, George Eads, Charles Boussum, H. L. Roberts. In the top row are the members of the present fire department: Fred Stevens, Ed. Canoose, Assistant Chief; Howard Glascock, Vernon Woods, Al Geren, George Shreve, Claud Stevens.

Oldtimers Hold Reunion

The old time volunteer firemen of Medford, Ore., met in Medford last March for a reunion. It was decided that instead of meeting once every five years, the group would convene every two years. Time of the reunion was also changed to put it nearer Decoration day so that special tribute might be paid to the departed colleagues.

A feature of the second day of the reunion was a turkey dinner prepared by one of the old volunteers.

Quarters for Volunteers

Fenton, Mich., has recently completed a new Municipal Building of brick and concrete construction, in a city park at the corner of LeRoy and Ellen streets.

The Volunteer Fire Department quarters consists of an apparatus room, and lounge or meeting room. The balance of the first floor is occupied by the Council Chambers.

A large town clock has been placed in the hose tower.

The basement is occupied by the city jail, garage and a store room.

This building and a community hall are gifts to the city of Fenton from the Rackham Fund.

DONALD DERK.

Illinois Fire College Meets

The Sixteenth Annual Illinois Fire College met this year on June 11 to 14 at the University of Illinois, Urbana-Champaign, Ill.

An enrollment in the College of 584 this year indicated a desire on the part of greater numbers to benefit by such organized work. Each morning and afternoon up until 4:30 p. m., was turned over to study and lectures. In the afternoon, preliminary baseball games were played with the finals being held on the thirteenth.

Wednesday, June 12, was devoted to the Safety School. Demonstrations and discussions were held on first aid training, artificial respiration contests, types of rescue work, and squad cars.

Flag day was recognized with appropriate ceremonies. Chief Harry K. Rogers presented an American flag to the college. A collection was taken up, and presented to the American Red Cross.

Miami Beach Station

(*Continued from page 377*)

from the rest of the building, with its own entrance door. The right hand building is a compact residence for the Fire Department Chief.

The entire group of buildings is fireproof, with a concrete frame and walls of brick and hollow tile. Floors throughout the building are reinforced concrete slabs finished in terrazzo (main building), cement (alarm and service), or cement-tile and wood (residence wing). Walls in the apparatus rooms, storage rooms, and toilets are surfaced with vitreous tile. Incidental heating in the building is provided by gas space heaters.

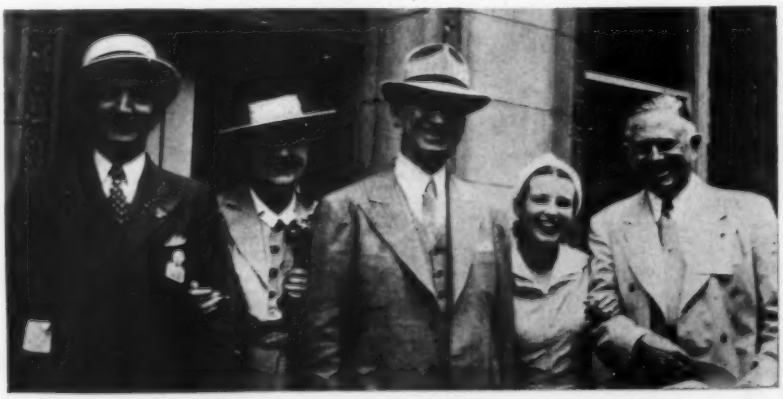
Records Set by Pumpers

In the May, 1940, issue of FIRE ENGINEERING under "Correspondence," a letter was published of the pumping record of a 600-gallon pumper at New Paltz, N. Y. Since that time, Harry S. Kaiser, Chief of the New Paltz Fire Department, has received many requests for more information on performance.

In the Spring of 1937, a water main broke under a flooded river in New Paltz. An American LaFrance, 1924 model, 600-gallon pumper was pressed into service. It was used to pump water from a brook into a hydrant about 400 feet away, using two lines of 2½-inch hose. A chlorine system was also used on the suction side.

The truck pumped continuously for 126 hours at a pressure of between 100-125 psi. The entire village of New Platz was supplied as were the State Normal School and the New Platz High School, which are situated at quite an elevation.

Chief J. A. Fischer, Jr., of the Annapolis, Md., Fire Department, relates that during the summer of 1930, Annapolis experienced an exceptionally dry spell with the water in the reservoir becoming seriously low. At that time they had no artesian wells; the water was obtained from water sheds of nearby hills. In August, an American-LaFrance, rotary gear, 1,000-gallon pumper was put into service at a nearby stream and pumped water through 1,100 feet of 2½-inch hose and a two-inch water pipe to the reservoir. This engine was run continually for thirty-three days, four hours and thirty minutes. The engine was shut down only once in twenty-four hours to change oil. In September, this engine was returned to active service. Due to the shallowness of the stream from which the water was being lifted, some sand was pumped through, causing the gears to be slightly pitted. However, the engine remained in service until 1932, at which time the gears were replaced. It has been in active service since then.



At the Illinois Fire College, Urbana-Champaign, June 13

Left to Right: Chief Al Herring, Murphysboro, Ill., Bess Flynn, Chief Ralph Scott, Managing Director, I.A.F.C., Ethel Enos, Convention reporter, Jim Flynn, Potter Manufacturing Company, Chicago.

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FA-21 Auxiliary Master Box

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Send for literature giving full description of the various units we manufacture.

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No valve adjustments are required. Does not require two men to operate. Is practically fool-proof.

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72-76 PARK PLACE, NEW YORK

Quincy, Cal., Modernizes Department

When the Fire Department of Quincy, Cal., re-organized six years ago, it took over five hose carts with some hose. From that they have built a Fire Department with twenty men, one 350-gallon pumper carrying 300 gallons of water, one forty-foot extension safety aluminum ladder, one twenty-four-foot extension ladder, one twelve-foot roof and pompier ladders. An order has been placed for a 500-gallon pumper carrying 300 gallons of water. A modern fire station has been built with a large dormitory, recreation hall and lounging room. The apparatus room has three stalls, and hose drying rack with a capacity of eight hundred feet of hose.

Many Have First Aid Cards

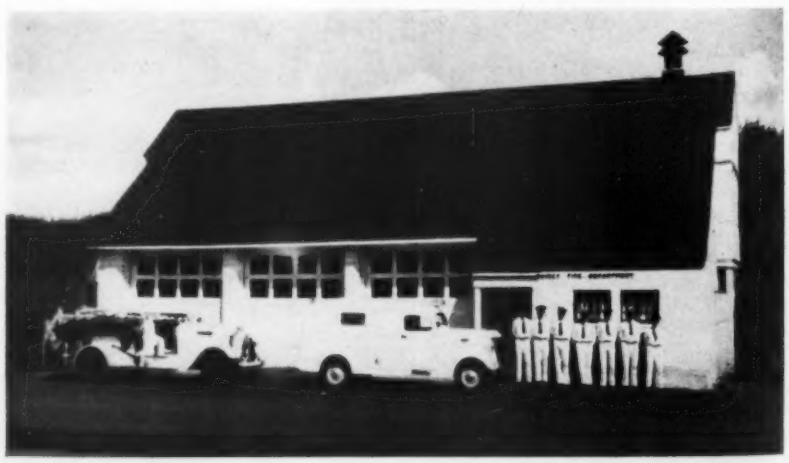
In the First Aid Division, there are seventeen men holding Red Cross First Aid cards and four men holding instructor's cards. A resuscitator with stretchers and complete first-aid equipment have been purchased. An ambulance was purchased in 1938, and ambulance calls have been coming in from Reno, Nev., to San Francisco, averaging over 1,000 miles a month on ambulance calls alone. A charge of ten cents a mile is made for the use of the ambulance in order to cover the cost of operation and to take care of depreciation. All of the equipment in the first aid line was purchased by celebrations, public subscription, shows, dances, and hard work.

CHIEF M. H. SCHOOLER
Quincy, Cal., Fire Department.

Part of the Equipment of the First Aid Division of the Quincy Fire Department

Chief Timmons Ill

Members of the Beaver Falls, Pa., Fire Department are very much concerned over the serious illness of their Ex-Chief Rickard Timmons. Chief Timmons has a great many friends in the fire service.



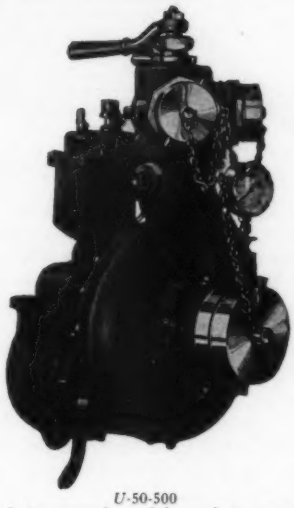
Station House, Apparatus, and Some of the Members of the Quincy Fire Department

Barton Front Mounted

AMERICAN-MARSH PUMPS

Barton American Midship

CENTRIFUGAL FIRE APPARATUS PUMPS



U-50-500
Offered in several models and in capacities from 250 to 600 G.P.M.

Duplex Multistage 500
Offered in single and duplex multistage models 500, 600 and 750 G.P.M. capacities.

AMERICAN-MARSH PUMPS, INC., Battle Creek, Michigan ***Pumps—and pumps only—since 1873***

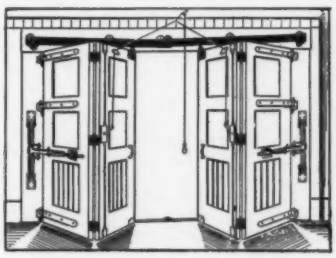
ANOTHER NATIONAL PUMPER

A 750-gallon triple combination pumper recently delivered to Zanesville, Ohio, fire department.

NATIONAL FIRE APPARATUS CO.
Galesburg, Illinois

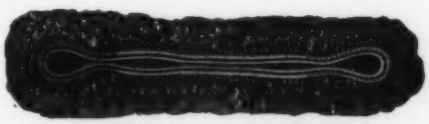
LOEFFLER FIRE STATION EQUIPMENT

Automatic Door Openers
Sliding Poles
Metal Sheath
Well Hole Doors
With Spring or Electric Openers
Electric Hoist for Hose Tower

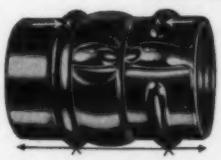


WRITE US TODAY

J. M. LOEFFLER
132 N. FOURTH STREET - PHILADELPHIA, PA.



This is the new LIGHT WEIGHT BI-LATERAL FIRE HOSE



This hose will stand 900 pounds pressure and weighs but 45 pounds to the section uncoupled.

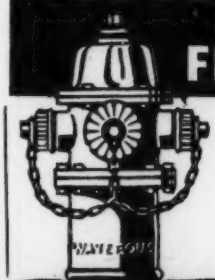
Here's the new DROP-FORGED rocker lug coupling (not cast bronze), with the swivel-protecting feature.

This coupling will stand several expansions and can be used over and over again, saving your city at least 20c to 30c per foot on future hose purchases.

When in the market, let us show you that we can give you the best service obtainable for the least money.

BI-LATERAL FIRE HOSE COMPANY
20 N. Wacker Drive Chicago, Illinois

WATEROUS
COMPRESSION FIRE HYDRANTS



Waterous Dependable
ESTABLISHED 1886

WATEROUS COMPANY - ST. PAUL

YOUR BADGE OF HONOR

Something more than a decoration . . . an insignia of courage and unselfish devotion to duty. That badge should be worthy of its place on your uniform . . . let it radiate quality and your pride in wearing it. BRAXMAR has been making badges for more than 60 years.

C. G. BRAXMAR CO., 242 West 55th Street, New York

BRAXMAR BADGES

Standard for Over Sixty Years

CAIRNS SERVICE HELMETS

"The TOPS" for SAFETY

When you buy a helmet, you're buying protection. Be sure you get the protection you expect. Over 100 years of experience are built into every CAIRNS HELMET, and the best safety features that experience has developed. Rugged top grain leather is used, specially processed for strength and heat resistance, and reinforced to maintain shape—features valued by every experienced fireman. Made in a number of styles and weights, to meet your preference. Write for Catalog 30A, describing both leather and aluminum helmets, and the CAIRNS QUALITY line of firemen's personal equipment.

CAIRNS & BROTHER

444 LAFAYETTE ST. NEW YORK

Founded in 1836

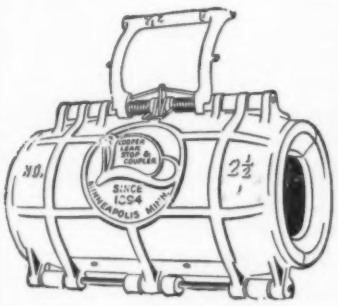
HAHN FIRE APPARATUS

Air-Cooled or Water-Cooled Powered Apparatus

HAHN MOTORS, INC. HAMBURG, PA.

COOPER HOSE JACKET CO.

Announces



the addition of a new 1½" hose jacket to complete their line. It fills the need for a jacket to fit 1½" hose which is becoming standard with most major fire departments.

NEW PRICE LIST FOR 1939

1½", f.o.b. $40 Liners, $10.50
2½", f.o.b. $45 Liners, $10.50
3", f.o.b. $55 Liners, $15.00
3½", f.o.b. $65 Liners, $20.00

DISTRIBUTION POINTS

East: Elkhart, Ind.
Northwest: Minneapolis, Minn.
West Coast: Los Angeles, Calif.

6 NEW **AUTOMATICS** 6 NEW

SPECIAL SAFETY features for fire fighters

L-O-O-K

Select Your Own Local Distributor

DISTRIBUTORS . . .

Write for our 16-page catalogue and the liberal . . .

Y-BURN PROFIT PROPOSITION

Y-BURN, INC., 564 W. Randolph St., CHICAGO, ILL.

Valuable Information

All the manufacturers you will find represented in our advertising pages have interesting and valuable data about their equipment which is yours for the asking. When writing be sure to mention FIRE ENGINEERING.

Radio Proves an Asset

(*Continued from page 327*)

is operated in connection with the police radio, with a qualified operator on hand at Police Headquarters twenty-four hours a day.

We use Motorola, Philco, R.C.A., and sets developed by the Chicago Police and Fire Departments.

Kokomo, Ind.
Robert Hoover, Chief

We do use radio in our Department. We have one piece of apparatus equipped with a two-way radio, that being our new first aid unit. We do not have any apparatus equipped with one-way radio. We have found the radio very beneficial.

In case of serious accidents, we notify the police and they call the hospital to make arrangements for the patient. There is no waiting when we arrive at the hospital for the doctors and nurses meet us at the door. Radio is an indispensable asset to efficient first fighting.

Our radio is operated in connection with the police radio, with a qualified operator on hand at Police Headquarters twenty-four hours a day.

Our radio was built and installed by the radio technicians from the Police Department.

Omaha, Neb.
A. W. Olsen, Chief

We use only one-way sets in our department. Eight cars which include five Chief's cars, a rescue unit, a squad car and the Arson Bureau car, are equipped with one-way sets. At the present time, none of the apparatus is equipped with radios. We have found the radio extremely beneficial. Our Chiefs are tapped back in service over the radio immediately after a fire instead of waiting until they are back at headquarters. If the Rescue Squad is out, it can be located and dispatched elsewhere immediately. This applies to other officials with radio equipped cars.

We consider even the one-way radio an asset and hope that some day our Chiefs' cars will be equipped with two-way radios.

Our radio is operated in connection with the police radio with a qualified operator on hand at Police Headquarters twenty-four hours a day. We use Motorola and Police Special sets.

Lincoln, Neb.
F. W. Donnelly, Chief

We use one-way radios in our department at the present time, but two-way radios are contemplated in the near future. The Chief's and Assistant Chief's cars are equipped with one-way sets. We have found the radio beneficial in the correction of wrong addresses or locations of fires; in the prevention of long runs when fires are reported out; in keeping in touch with the departmental affairs while fires are in progress; and in receiving alarms while on inspection trips, or on returning from previous fires.

The radio is a real asset to efficient fire fighting. A two-way system holds many advantages over a one-way system.

Our radio is operated in connection with the police station. There are three operators and one relief operator who work in eight-hour shifts.

We use Model 8-21-P Philco receiving sets.

Wilkinsburg, Pa.
S. H. Jeffries, Chief

We use one-way radios through the police station. Two cars and two motor cycles are equipped with these radios. The police work with the Fire Department on all fire calls. The police are with us on all fire calls for they have receiving sets installed in their cars. Should another call come in, the Sergeant calls Pittsburgh, and it is received by the police and the Fire Chief. Thus it is possible for the Chief to know what is going on while we are on the first call. The second call is answered by a hose truck, a seventy-five-foot aerial truck and six men.

Our calls come from Pittsburgh, about seven miles west of Wilkinsburg. The Desk Sergeant phones Pittsburgh, and they put the call on the air.

Columbus, Ohio
E. P. Welch, Chief

We use a two-way radio in our department. At the present time, the Chief's car is equipped with a two-way set, and purchase are being made to equip all District Chiefs' cars and the Squad car with two-way radios.

We have found the radio beneficial in several ways such as dispatching a District Chief, who has responded to one fire, to another, after the first fire has been brought under control. The two-way set is especially good for sending in multiple alarms. The radio permits the District Chiefs to cover their district more often, and they are always available in case of an alarm.

Radio has increased the efficiency of our department to no small extent. It is operated through remote control on both sending and receiving from the Fire Alarm Office. The fire operator is the transmitter.

We use Motorla on both sending and receiving sets.

Charlotte, N. C.
W. H. Palmer, Chief and Supervisor of Fire-Police Radio Division

We use two-way radio for cars and one-way sets for fire stations. Three cars are equipped with two-way sets, and seven stations are equipped with one-way sets.

Fire stations acknowledge receipt of call by checking in over a PBX telephone switchboard by raising the telephone hook. This is indicated on the switch board by a red light.

The radio is very beneficial in that it enables all stations to receive a call at the same time, and the chief officers can remain in contact with the department during all hours of the day. I do not see how we could function efficiently without radio since we now have it.

At the present time we are using our radio in connection with the police radio, but we have special license for the Fire Department transmitter, a 100-watt station which was placed in service about July 1. There is a qualified operator on hand at Police Headquarters twenty-four hours a day.

We use Philco receivers with Link transmitters in the fire cars. Old Majestics are placed in the seven fire stations. We have a composite transmitter of 500 watts and one 100-watt composite transmitter built. The Charlotte Fire Department installed radios for their use in April, 1931, being among the first in this country to do so.

Binghamton, N. Y.
William D. Thomas, Acting Chief

We are using one-way radios at the present time, but there is talk of installing two-way radios in the future. Three chiefs' cars, one squad car, and one fire alarm truck are equipped with the two-way radios. We have found radios beneficial in many ways for they enable us to keep in closer contact with the department while out on departmental business, such as attending fires or going to or from the same. It has rendered great service to the squad company in sending out calls to them when they are out on an emergency call for services other than fires.

Our radio is used in connection with police radio with a qualified operator on hand at Police Headquarters twenty-four hours a day. We use Philco sets.

East Orange, N. J.
Charles A. McGinley, Chief

We use one-way radios in our department. Two Chiefs' cars are equipped with one-way sets. I believe that two-way sets are more efficient, but at the present their first cost is too great. These radios are very beneficial because the Chief and Assistant Chiefs are advised instantly of all alarms while away from quarters on inspections or other business.

Our radios are operated in connection with the police radio with a qualified operator on hand at Police Headquarters twenty-four hours a day. The sets we use were purchased from the Gray-Bar Electric Company, Newark, N. J.

Battle Creek, Mich.
W. P. Weeks, Chief

We use two-way radios in our department. Two Fire Department cars, the Chief's car and the Assistant Chief's car, as well as five police cars are equipped with these sets. On several occasions we have been answering alarms, and before reaching the scene of the fire, we have found it to be greater than was expected. By using the radio, more equipment was ordered on the way before the first equipment arrived. These sets are very helpful to efficient fire fighting especially on night fires where telephones are scarce.

The fire alarm office has a receiving radio and a direct telephone from the Police Department. Three qualified operators work on three eight-hour shifts. The police and fire departments' radios were built in Battle Creek by a competent radio technician.

Waltham, Mass.
B. A. Neal, Chief

At the present, one Chief's car and

(*Continued on page 389*)

FALSE ALARMS

"Brother Fire fighters did you say?"

DEDUCTIONS

It was at the annual firemen's ball that they met. She was doing her best to make conversation with her quiet escort.

"I think dancing makes a girl's feet too big, don't you?' she queried.

"Yeah," he replied.

Trying again she asked, "I think swimming gives a girl awfully large shoulders, don't you?"

Following a small pause, he said. "You must ride a lot, too."

Modeled after the sprinkler systems for fire protection, there is a new lip rouge on the market which, at certain temperatures, whistles, "Don't wear out your welcome."

A LIGHT CHARGE

At the town meeting, the President of the local light company was making a stirring address. "Think of the good the light company has done," he cried. "If I were permitted a pun, I should say, 'Honor the Light Brigade.'"

One of the volunteer firemen of the village, who was a dissatisfied customer shouted: "Oh, what a charge they made."

THE GREAT LOVER

Gently he pushed her quivering shoulders back against the chair. She raised her beseeching eyes in which faint hope and fear were struggling. From her parted lips, the breath came in short, wrenching gasps. Reassuringly, he smiled at her.

Bzzzzzzz, went the dentist's drill.

DISTINCT FLAVOR

The smoke eaters were just finishing their evening meal. The dessert was served, and on taking a mouthful of the pie, the Chief asked of the colored waiter.

"What kind of pie is this, apple or peach?"

"What does it taste like?" asked the waiter.

"Glue," was the reply.

"Well den it's apple. The peach pie tastes like putty."

A REASON FOR EVERYTHING

The boys around the station house were discussing the never boring topic of women's clothes when one of them challenged the rest to give him five good reasons why women wear tight fitting sweaters.

One of the boys replied, "they're fashionable, inexpensive, and they're comfortable."

"That's three," said the first, "but what are the other two?"

To which the second fellow replied, "They are obvious."

He had finally succeeded in getting his arm around—then both his arms—then he twisted one leg around and quickly followed with his other. A final lurch, and it was all over. Plitch had again won the greased pig contest.

JUST TEMPORARY

Smokey was being measured by his tailor for a new uniform.

"There's sort of a bump on your chest, but I'll make your coat so that you won't realize it is there," promised the tailer.

"I know you will," said Smokey. "That's my pocketbook in my inside pocket."

I hold her in my arms—a feeling of warmth creeps over me—I pull her closer her soft rosiness pressed tightly against my cheeks—soothing—satisfying—perfect bliss—I could lie here forever with Emma, my trusty hot-water bottle.

Q. AND A.

Q. Why is a bathing suit like a barbed wire fence?

A. Because it protects the property without obstructing the view.

"Just one more question Miss Dipple, are you doing anything Friday night."

Radio Proves an Asset

(*Continued from page 387*)

one Deputy Chief's car are equipped with two-way radios. We find these sets very valuable for we can remain in contact with the Fire Alarm Office when on the road or at fires. During the brush fire season, when it frequently happens that there are several fires burning at one time, the chief officers have complete knowledge of all that is happening, and they are constantly in touch with each other. We believe that these radios are invaluable for efficient fire fighting. There are two transmitting stations, one is located in Police Headquarters and the other one in the Fire Alarm Office. A qualified operator is on hand twenty-four hours a day. Our radio is a Westinghouse, installed by the Gamewell Fire Alarm Company.

Quincy, Mass.

W. J. Sands, Chief

We use both one-way and two-way sets in our department. Three cars, including the Chief's car, the Deputy Chief's car, and the Special Service or Rescue truck, are equipped with two-way radios. One hose wagon is equipped with a one-way set. These radios enable corrections to be made in the location of fires when the department is on the way. Additional alarms may be sent in easily and quickly. The Chief may learn the type and the extent of the fire while enroute. Radios keep the cars in constant contact with the Fire Alarm Office.

We believe that the radio is a valuable aid to efficient fire fighting because it keeps the apparatus so equipped in service at all times. Our radios are operated in connection with the Police Department radio, with a qualified operator on hand at headquarters twenty-four hours a day. Our sets were built by the Sergeant of the Police Department who is an expert, and who is in charge of the Radio Service.

Worcester, Mass.

Carl J. Kiessling, Chief

We use one-way radios in our department. The five chief officers' cars are equipped with one-way sets. We have found them to be very beneficial. The chief officers are able to keep in constant touch with the office and with the actions of the several companies of the department. I believe that it is an asset to efficient fire fighting. All broadcasting is done by the Police Department. There is a qualified operator on hand at Police Headquarters twenty-four hours a day.

The Police Department maintains a Westinghouse transmitter. In addition to short wave radio, the Fire Department also has a Voltex system. This is a hook-up with the fire alarm office and extends to every engine house in the city. Messages can be broadcast over this Voltex System to each engine house simultaneously. The Chief's office and the fire alarm office are equipped with two-way Voltex speakers. Portable two-way sets are carried by the chief officers in their cars. These portable sets can be hooked up to any fire alarm box and thus make two-way communica-

(*Continued on page 396*)

FIRE CHIEFS

have that feeling of security when action is at FEVER heat

insist on . . .

QUAKER FIRE HOSE

Every foot is made with scrupulous care. Rigid inspection of raw materials. Modern up-to-date machinery. Skilled workmen under supervision of experienced executives who are experts in the manufacture of rubber products.

In Quaker you have a finished hose, one that is flexible, easy to handle, coils readily and fully guaranteed. Quaker Fire Hose will give any city real protection from the ravages of fire.

Multiple Jacket Hose made in four distinct and different constructions.

QUAKER RUBBER CORPORATION

(formerly Quaker City Rubber Co.)

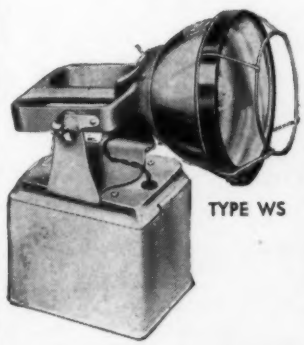
Main Office and Factory: **PHILADELPHIA**

Branches:

NEW YORK • CHICAGO • HOUSTON • SAN FRANCISCO

MASTER-LIGHTS for REAL EFFICIENCY

It's the 1st 5 Minutes that Count!



TYPE WS

Now, you and your men can have *more speed and safety* fighting day and night fires with MASTER-LIGHT equipment! Powerful MASTER-LIGHTS penetrate smoke and steam. Their light weight lets you carry them *quickly* where you need them, outside or inside. MASTER-LIGHTS help you locate fires while they're still quickly controllable!

MASTER-LIGHT WS is the "Officers' Light." One mile beam—250,000 candlepower—service beam for ordinary use—long battery life—weight of only 12 perfectly balanced pounds—WS is a light that will help you! And your men will find G-23 mighty handy, for it has a 25,000 candlepower beam, rechargeable battery, and weighs only 76 ounces!

TRY MASTER-LIGHTS FREE!

WS and G-23 are only 2 of the many MASTER-LIGHTS that will help your department. Write us now for our new 1940 MASTER-LIGHT Folder. Select from it the lights you want, then send for your MASTER-LIGHTS on 30 days FREE TRIAL! Your own tests, under your own conditions, will *prove* MASTER-LIGHTS' value to you. Send for information NOW!

TYPE G-23

CARPENTER MFG. CO.

200 Sidney Street - - Cambridge, Mass.

A Compact, Convenient Mask for SMOKE and GASES!

Pulmosan #1600 FUMEGARD

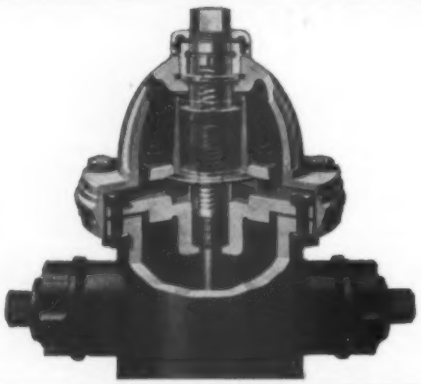
The newly designed No. 1600 Fumegard Face Mask is ideal for emergency conditions of Smoke, Noxious Gases (except carbon monoxide), Refrigerants, etc. Bulky straps, hose and chest canister are eliminated, to permit quicker action and greater freedom. Husky, gas mask type face piece has large shatterproof, non-fogging lenses, plus flutter type exhalation valve. Canister contains ¼ lb. of absorbents. Equip your department with the No. 1600 Fumegard and save at its economical price.

PULMOSAN SAFETY EQUIP. CORP.
Dept. FE, 176 Johnson Street, Brooklyn, N. Y.

Order a No. 1600 Fumegard for examination and testing. It's a great value at

$10.00 F.O.B. BROOKLYN, N. Y.

Postage prepaid in U. S. if payment accompanies order.



MUELLER-COLUMBIAN FIRE HYDRANTS

The SELF OILING feature of these hydrants is a favorite with Fire Chiefs. They like it because they know the threads cannot rust, it cannot freeze, and the operating nut will always turn easily. There's no time lost hooking up to a Mueller-Columbian.

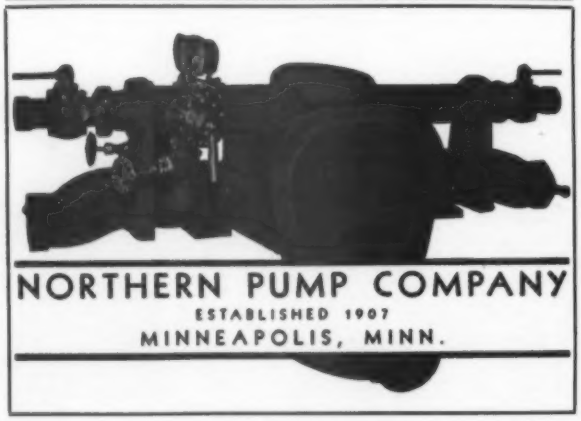
WRITE FOR FULL INFORMATION

Mueller Co. Chattanooga, Tenn.

HEWITT-GUTTA PERCHA FIRE HOSE

A complete line, including
Wax Treated - Solid Multiple Woven
AND
Single and Double Jacket Hose

Manufactured by
HEWITT RUBBER CORPORATION
BUFFALO, N. Y.
"Territories Available"



NORTHERN PUMP COMPANY
ESTABLISHED 1907
MINNEAPOLIS, MINN.

Here is a Gold Mine of Practical Information for Modern Fire Fighters--

THE FIRE CHIEF'S HAND BOOK

By FRED SHEPPERD

***In Collaboration with the* EDUCATIONAL COMMITTEE *of the* INTERNATIONAL ASSOCIATION OF FIRE CHIEFS**

THERE have been books on fire-fighting, but never anything so complete and authoritative as the "Fire Chief's Handbook." This book gives a reliable, up-to-the-minute answer to almost every question that might come up in modern fire-fighting practice.

For progressive fire chiefs, interested in up-to-date fire fighting methods, the "Fire Chief's Handbook" will be a mighty valuable reference guide. It gives to ambitious fire department officers and men, in plain, understandable form, information that should prove extremely helpful in preparing for promotional examinations. In fact, it is a book every fighter needs and ought to have. *The Edition Is Limited—Better Order Your Copy Today.*

$4.00 *per copy postpaid Book Dept.*

CASE-SHEPPERD-MANN-PUBLISHING CORP.
24 West 40th St., New York, N. Y.

Convention Dates

July 15-17—WISCONSIN STATE FIRE CHIEFS' ASSOCIATION. Annual Meeting, Sturgenbay. Secretary, A. U. Simon, Ladysmith, Wis.

July 16-17 — MARITIME FIRE CHIEFS' ASSOCIATION. Annual Convention. Campbellton, N. B. Secretary, Charles A. Cunningham, St. John, N. B.

July 17-20—WASHINGTON STATE ASSOCIATION OF FIRE CHIEFS AND WASHINGTON STATE FIREMEN'S ASSOCIATION. Annual Meeting and 10th Annual Fire School, Port Angeles, Wash. Secretary, W. A. Groce, 716 Mohawk Building, Spokane, Wash.

July 18-19 — MONTANA STATE FIREMEN'S ASSOCIATION. Annual Convention, Livingston, Mont. Secretary-Treasurer, J. F. Roth, Billings, Mont.

July 18-20—CENTRAL NEW YORK FIREMEN'S ASSOCIATION. 47th Annual Convention, Johnson City, N. Y. Acting Secretary, Leon H. Ingersoll, Cincinnatus, N. Y.

July 17-18—ONONDAGA COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. 42nd Annual Convention, Solvay, N. Y. Secretary, R. J. Beaudoin, Jamesville, N. Y.

July 20-21 — OHIO STATE VOLUNTEER FIREMEN'S ASSOCIATION. 2nd Annual Convention, Sandy Beach, Akron, Ohio. Secretary, Chief Sid Wellock, Coventry Township.

July 22-26 — FLORIDA STATE FIREMEN'S ASSOCIATION and FLORIDA STATE FIRE COLLEGE. 11th Annual Fire College, Daytona Beach, Fla. Secretary, F. C. Pfaender, Box 344, Chattahoochee, Fla.

July 22-26—WEST VIRGINIA FIRE SERVICE EXTENSION SCHOOL. 10th Annual State Fire School, West Virginia University, Morgantown, W. Va. Director, G. R. Spindler, 121 Mechanical Hall, Morgantown, W. Va.

July 31-Aug. 3 — PACIFIC COAST ASSOCIATION OF FIRE CHIEFS. 47th Annual Convention, Tacoma, Wash. Secretary, J. W. Stevens, San Francisco, Cal.

Aug. — UTAH STATE FIREMEN'S ASSOCIATION. Annual Convention, Logan, Utah. Secretary, John J. Creedon, Bingham Canyon, Utah.

Aug. — CONNECTICUT STATE FIREMEN'S ASSOCIATION. Annual Convention, Danbury, Conn. Secretary, D. W. Harford, South Norwalk, Conn.

Aug. 5-6 — NEW YORK STATE FIRE FIGHTERS ASSOCIATION. Annual Convention, Schenectady, N. Y. Secretary, Frank A. Emden, 1403 Mather Ave., Utica, N. Y.

Aug. 5-8 — INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 68th Annual Conference, Davenport Hotel, Spokane, Wash. Secretary, James J. Mulcahey, Yonkers, N. Y.

Aug. 12-17 — NORTH CAROLINA STATE FIREMEN'S ASSOCIATION. Annual Meeting, Salisbury, N. C. Secretary, John L. Miller, Concord, N. C.

Aug. 12-17 — VIRGINIA STATE FIREMEN'S ASSOCIATION. Annual Convention, Bristol, Va. Secretary, R. B. Barker, Newport News, Va.

Aug. 13—FIRE CHIEFS' ASSOCIATION OF VIRGINIA. Annual Convention, Bristol, Va. Secretary, S. Herman Dennis, 1238 Chesapeake Ave., South Norfolk, Va.

Aug. 18-21—NEW YORK STATE FIREMEN'S ASSOCIATION. 21st Annual Convention, Olean, N. Y. Secretary-Treasurer, Arthur Bleau, Bunn and Chestnut Sts., Amsterdam, N. Y.

Aug. 20-23 — FIREMEN'S ASSOCIATION, STATE OF NEW YORK. Annual Convention, Dunkirk, N. Y. Secretary, Fred A. Davis, 140 Broadway, Fort Edwards, N. Y.

Aug. 26-29—NORTH CAROLINA STATE FIREMEN'S ASSOCIATION. Annual Convention, Salisbury, N. C. Secretary, John Miller, Concord, N. C.

Aug. 27-30 — DOMINION ASSOCIATION OF FIRE CHIEFS. Annual Meeting, Brantford, Ont. Secretary, James Armstrong, Kingston, Ont.

Aug. 29-31 — WEST VIRGINIA FIREMEN'S ASSOCIATION. Annual Convention, New Martinsburg, W. Va. Secretary, H. G. Fridinger, Martinsburg, W. Va.

Sept.—NEW JERSEY STATE FIREMEN'S ASSOCIATION. Annual Convention, Atlantic City, N. J. Secretary, Evans F. Benners, 24 Branford Pl., Newark, N. J.

Sept. — LOUISIANA STATE FIREMEN'S ASSOCIATION. Meeting at Thibodaux, Secretary, Edward Wright, Houma, La.

Sept. 3-6—MARYLAND SHORT COURSE FOR VOLUNTEER FIREMEN. Annual School at the University of Maryland, College Park, Md. Director, Chief J. W. Just, College Park, Md.

Sept. 3-5—KENTUCKY FIREMEN'S ASSOCIATION. Annual Fire School at Bowling Green. Secretary, V. A. Beam, 2221 W. Broadway, Louisville, Ky.

Sept. 11-12—DELAWARE VOLUNTEER FIREMEN'S ASSOCIATION. 20th Annual Convention, Smyrna, Del. Secretary, Warren W. Pettyjohn, Dover, Del.

Sept. 16-17—TEMISKAMING FIREMEN'S ASSOCIATION. Annual Convention, New Liskeard, Ont. Secretary, F. E. Thompson, New Liskeard, Ont.

Sept. 17-18—IOWA FIREMEN'S ASSOCIATION. Meeting at Emmetsburg, Ia. Secretary, Paul A. Soener, Independence, Ia.

Sept. 23-26—CALIFORNIA STATE FIREMEN'S ASSOCIATION. Annual Meeting, San Jose, Cal. Secretary-Treasurer, Harry E. Strasser, 2046 Oregon Ave., Long Beach, Cal.

Sept. 25-26—TENNESSEE FIREMEN'S ASSOCIATION. 10th Annual Convention, Pulaski, Tenn. Secretary, J. J. Martin, Nashville, Tenn.

Oct. — FIRE CHIEFS OF MAINE. Quarterly Meeting at York Harbor, Me. Secretary-Treasurer, Charles W. Bowker, South Paris, Me.

Oct.—ARKANSAS STATE FIREMEN'S ASSOCIATION. Meeting at Russellville, Secretary, H. D. Compton, Little Rock, Ark.

Oct. 1—FIREMEN'S ASSOCIATION, STATE OF PENNSYLVANIA. Annual Meeting, Lewiston, Pa. Secretary, Charles E. Clark, Wayne, Pa.

Oct. 3-5—ALABAMA STATE FIREMEN'S ASSOCIATION. 5th Annual Convention, Tuscaloosa, Ala. Secretary, G. E. Crossett, Birmingham, Ala.

Oct. 4 — WALWORTH COUNTY FIRE OFFICERS' ASSOCIATION. Annual Meeting, East Troy, Wis. Secretary, C. A. Foster, Lake Geneva, Wis.

Oct. 8 — STATE ASSOCIATION OF FIRE CHIEFS OF MAINE. Meeting, York Harbor, Me. Secretary-Treasurer, C. W. Bowker, South Paris, Me.

Oct. 14-16 — SOUTHWESTERN ASSOCIATION OF FIRE CHIEFS. Annual Meeting, Hotel Tulsa, Tulsa, Okla. Secretary-Treasurer, J. R. Pence, Stillwater, Okla.

Oct. 14-17 — INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION. Annual Meeting at Jacksonville, Fla. General Chairman, George Allen, Supt. of Fire Alarms, Jacksonville.

Oct. 15-17—ILLINOIS FIREMEN'S ASSOCIATION. Annual Convention, Murphysboro, Ill. Secretary, R. W. Alsip, Champaign, Ill.

Oct. 15-17—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. Annual Meeting, Omaha, Neb. Secretary, Louis A. Novak, Norfolk, Neb.

Oct. 23—FAIRFIELD COUNTY FIRE CHIEFS' EMERGENCY PLAN. Monthly Meeting, fire house, Ridgefield, Conn. Secretary, John H. Moehring, Belltown, Conn.

Nov. 20—FAIRFIELD COUNTY FIRE CHIEFS' EMERGENCY PLAN. Monthly Meeting, fire house, New Canaan, Conn. Secretary, John H. Moehring, Belltown, Conn.

Dec. 18—FAIRFIELD COUNTY FIRE CHIEFS' EMERGENCY PLAN. Monthly Meeting, fire house, Springdale, Conn. Secretary, John H. Moehring, Belltown, Conn.

Volunteer Salvage Company

The city of Rochester, N. Y., has a volunteer salvage company which dates back to the year 1858, at which time it was called "Buckets," because water buckets were their original equipment.

In the Constitution and By Laws of the Protectives, it is stated that the object of the company shall be the removal of property from burning buildings or buildings in dangerous proximity to the fire, and the protection thereof by an efficient and responsible guard during the confusion incident to such occasions, also the extinguishing of fires when practical.

The membership of the company is limited to 160 members, and there is always a long waiting list. The members are from all walks of life, professional men and laborers.

The truck that is used is an American LaFrance, carrying twenty tarpaulins. Seventy more are kept in the fire house, and if, after reaching the fire, it is found that more are needed, the truck and driver, with one other man, are sent back to the station for additional covers. The company responds to 168 boxes out of a total of 628 in the city.

The city pays the company $2,400 per year and furnishes three drivers from the paid department. No member of the company is allowed to drive the truck. A few of our young bunkers take the examination for the paid department, although no credit is given for being a volunteer.

The fire house is owned by the city, and is also occupied by a water tower, truck, and pumper company, also a deputy Chief. The quarters consist of the apparatus room for drying and storing the covers, meeting and dining rooms, kitchen, recreation room, showers, and bunk room with eleven beds. Ten members sleep in the bunk room in charge of a Lieutenant. The paid department has no salvage company, although the truck companies outside of the center of the city carry three tarpaulins each. There are always some men in the fire house during the day with the driver and the steward, but there are no rules as to who, or how many shall be there.

In the event that there is no covering to be done, the men take the hose off the pumpers and use their own play pipes. They also help the paid men stretch in their lines, open windows, bore holes to let out water when necessary, and use their own squeegees to push water out of the building.

They average twelve men to every alarm. This includes those who go by auto as well as those on the truck. Last year, they responded to 209 alarms and laid 310 tarpaulins.

The equipment consists of the following: one Hart four-way turret pipe, one resuscitator and inhalator, one first aid kit, oxygen and carbogen tanks, one eighteen-foot extension ladder, two eight-foot laders, one door opener, a crow bar, axes, two-inch auger and bit, pike pole, ceiling hook, wooden plugs, jimmies, monkey wrenches, helmets, boots and coats, hydrant gates, hydrant wrenches, spanner wrenches, hose straps, soda and acid extinguishers, electric lanterns, and play pipes and tips.

Fire Company Plans 50th Anniversary

The Merion Fire Company of Ardmore, Pa., will celebrate its fiftieth anniversary on September 14. Approximately 208 fire companies and musical organizations have been invited to take part in a street parade and the housing of a new fire engine.

The volunteers, protecting the rich Main Line section of suburban Philadelphia, claims to be the only volunteer fire company operating an independent branch fire company in addition to its main headquarters in Ardmore. The branch company is located in Gladwyne, approximately three miles from Ardmore. The company has three modern pieces of fire equipment in Ardmore and one pumper in Gladwyne.

The company will maintain open house during the celebration and invites all firemen throughout the country to join with them in celebrating its half century of progress.

Manufacturers' Announcements

First Aid Stretcher

A new stretcher combining the features claimed to aid better and more comfortable handling of injured persons has been developed by the Industrial Products Company, 826 W. Somerset Street, Philadelphia, Pa.

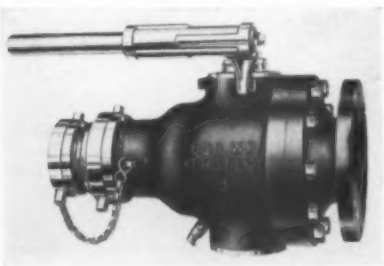
Due to its flexibility, this new stretcher can be carried through narrow crooked passageways, up or down ladders or circular stairways, or raised or lowered perpendicularly through trap doors, or manholes where there is room for only one person at a time.

Ipco First Aid Stretcher

The zipper, which runs the length of the stretcher, eliminates the need of lifting the patient from the stretcher to the cot. The stretcher holding the patient is placed on the cot, the zipper is drawn, and the stretcher lifts out in two complete halves, leaving the patient undisturbed. Special fasteners act as safeguards against the zipper opening while the patient is being carried.

"Kerosphere" Ball Valve

The Kerotest Manufacturing Company, Pittsburgh, Pa., has recently perfected a new quarter-turn, full-opening valve which is particularly adapted for the handling of fluids or gases of any kind under high pressures. This new product is designated by the trade-name "Kerosphere," being a combination of the Kerotest Manufacturing Company's registered trade-name and the spherical operating or rotating part of the new valve.



Ball Valve

The operating principle of the "Kerosphere" is new and novel and basic patents have been issued in the United States and in foreign countries. It has been developed to overcome many of the difficulties that have been prevalent in the conventional quarter-turn plug valve or stop cocks. The manufacturer lists, among many others, as the outstanding features of this new product such items as:

1. Non-lubricated.
2. Non-galling or sticking.
3. Easily operated regardless of pressure.
4. Seats always fully protected.
5. Full roundway opening through the valve.
6. Double seat shut-off.
7. All working parts stainless steel.
8. Will not creep when placed in throttling position.

The manufacturer states: "When used as a fire engine pumper discharge valve, the 'Kerosphere' has proved highly successful and due to the pressure balancing feature can be opened or closed very easily against any pressure for which designed and in fact operates with the same ease under high pressure as with no pressure whatsoever. This feature means that on pumpers equipped with 'Kerospheres' any line can be readily turned on or off without effort even though the pumper is working at maximum capacity. All valves for pumper service are equipped with a small auxiliary valve or pet-cock to drain water from the hose line if so required."

For engine pumper service, all valve bodies are regularly made of a special high-quality bronze and all working parts are made of heat-treated stainless steel. A novel adjustable operating wrench, chromium-plated, is attached to each valve. For the service described all valves are regularly given a factory hydrostatic test of 1200 pounds per square inch for operating pressures of 600 pounds per square inch.

All-Service Mask

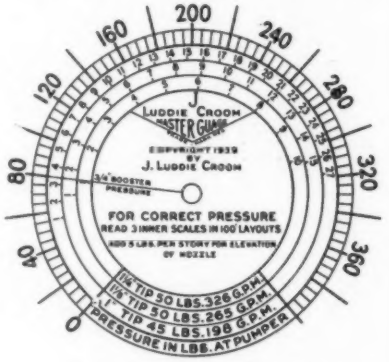
The All-Service Gas Mask is described in a new bulletin just issued by the Mine Safety Appliances Company, Pittsburgh, Pa.

The new facepiece features non-fogging, large area lenses of laminated, shatterproof glass. Dry incoming air is conducted over the lenses, thus preventing an accumulation of moisture or fog. The canister is specially designed to assure easy breathing and maximum efficiency of the contents. It is provided with chemicals for absorbing or rendering harmless all poisonous industrial gases, smoke and vapors, including carbon monoxide. One of the exclusive features of this mask is the timer which indicates the service time undergone by the canister.

Croom Master Gauge Dial

Regardless of the distance of the pumper from the nozzle, the Croom Master Gauge Dial, a product of the Croom Master Gauge Dial Company, Wilmington, N. C., will tell the operator whether or not the right amount of water pressure is being delivered to the nozzle. When the pumper is in operation, the proper pressure is shown by the position of the indicator hand on the dial. This eliminates guesswork and a lot of calculations. The only information needed is the length of stretch-in and the size of nozzle. With this information at hand, the operator selects the proper band of indices and reads opposite the hose length the necessary pressure for his pumper.

When there are two or more lines of hose from one pumper, the operator selects the line requiring the greatest pressure, and operates the pumper on that pressure. Although the shorter lines will have more pressure than required, the longer line will have the proper pressures at the nozzle.


LUDDIE CROOM
MASTER GUAGE
J. LUDDIE CROOM
FOR CORRECT PRESSURE
READ 3 INNER SCALES IN 100' LAYOUTS
1⅛" TIP 50 LBS. 326 G.P.M.
1¼" TIP 50 LBS. 265 G.P.M.
1" TIP 45 LBS. 198 G.P.M.
PRESSURE IN LBS. AT PUMPER

The Croom Master Gauge Dial

Atlas Life Belt With Hand Brake

In addition to their standard Pompier Life Belt, the Atlas Fire Equipment Co., Inc., has announced the development of a new Atlas Life Belt, with a hand brake. The new belt, it is stated, is an excellent one for rope sliding work, yet it is so designed as to enable its effective use also for ladder and rescue work.

The Unique Feature of the Belt

The brake provides for immediate stoppage of a body at any desired point, and the long, knurled handle allows a safe firm grip, free from friction burns and bruises.

Small Respirator

A respirator, so small that it will rest in the palm of the hand or can be carried in the vest pocket, has just been

WHERE TO BUY

A HANDY LIST OF REPUTABLE MANUFACTURERS FOR EASY REFERENCE WHEN YOU'RE IN THE MARKET FOR NEW FIRE EQUIPMENT

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Graybar Electric Co. (*p. 369*)

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For information about products of any manufacturer not listed above, write to Readers' Service Dept., FIRE ENGINEERING, 24 West 40th St., New York, N. Y.

COVER'S NOD and SHAKE SMOKE MASK

Carry It in Pocket. Slip on in a Jiffy. Positive Protection to Eyes Against Smoke and Saves the Lungs.

WHY GET SICK?

Price $48 per Dozen

Upon receipt of $4.00 one will be forwarded as a sample postpaid.

H. S. COVER

Station A, South Bend, Ind.

WHEAT SPOTLIGHT

Gives *More Light* . . . Permits Firemen Use of Both Hands

POWERFUL: 25,000 candlepower; 2,500-foot beam.
ECONOMICAL: Operating cost less than dry-cell lights.
ALWAYS BRIGHT: Light does not fade.
UNIVERSAL FOCUS: Throws light in any position, at any angle.
EASILY RECHARGED: No taking apart; spill-proof.
BURNS 1,000 HOURS without battery replacement.
LIGHT: Weighs only 97 ounces. Either Spotlight or Floodlight reflector.

DISTRIBUTORS WANTED: Desirable Territories Open

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KOEHLER MFG. COMPANY
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Fire Hydrants

There are No Better Made

That's why they are preferred by so many fire protection and water works men because they know that more than half a century of experience goes into their manufacture and they embody valuable and exclusive features.

Write for the Facts

EDDY VALVE CO.
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JANESVILLE QUALITY FIRE COATS

Constantly Increasing Sales Volume is our best evidence that Firemen everywhere prefer JANESVILLE QUALITY!

We also manufacture the New White Striped Safety Coats

Write for Illustrated Folder

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WHERE TO BUY

A HANDY LIST OF REPUTABLE MANUFACTURERS

FOR EASY REFERENCE WHEN YOU'RE IN THE MARKET FOR NEW FIRE EQUIPMENT

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Deluge Sets

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Fog

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Heavy-Stream

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Pipes, Ladder

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Excelsior Brass Mfg. Co. (*p. 376*)
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Shut-off

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Excelsior Brass Mfg. Co. (*p. 376*)
Harris Bros. Mfg. Co. (*p. 396*)

For information about products of any manufacturer not listed above, write to Readers' Service Dept., FIRE ENGINEERING, 24 West 40th St., New York, N. Y.

perfected by H. S. Cover, South Bend, Ind., manufacturer of Dupor respirators.

This respirator gives protection against nuisance dusts and can be slipped on or off as readily as a pair of spectacles. Wearers can talk, eat, sleep and smoke without removing the respirator.

The filters are easily changed as desired. The inhalation valve keeps the wearer from re-breathing stale air and the patented bulb exhausts breathed air without allowing unfiltered air to enter.

Ahrens-Fox to Service Apparatus

On June 4, 1940, the Ahrens-Fox Fire Engine Company filed application of dissolution of the corporation. Several months ago the real estate and machine tool equipment were disposed of, and just recently, the inventory, trade-name, good will, patterns, patents, jigs, special tools, books and records, drawings and similar items were sold to Harold LeBlond.

Mr. LeBlond and certain of his associates are forming a new corporation to be called the Ahrens-Fox Fire Engine Corporation. This company expects to carry on the servicing of all Ahrens-Fox apparatus now in use, but no new apparatus will be constructed. The services of most of the employees, experienced in the fire engine business, will be retained, so that the customers will have the benefit of the same facilities as in the past.

Automatic Resuscitation

The J. H. Emerson Company, Cambridge, Mass., has announced its most recent development which is a portable type of resuscitator that can be used also as an inhalator and for aspiration of fluids from air passages before starting resuscitation. By moving a single lever, the machine can be set for either resuscitation, inhalation, or aspiration.

As a resuscitator, it operates automatically, adjusting itself to the capacity of the lungs. It gives an audible signal when the patient's air passages are obstructed.

One of the most important advances in the design of the Emerson Resuscitator is the elimination of the use of oil and moving pistons. This improved construction has made it possible to offer a two-year guarantee. The equipment is further described as being light, compact, and easily transportable by firemen, life-guards and rescue workers in all emergencies involving respiratory failure. It will be exhibited at the International Meeting in Spokane, August 5-8.

Improved Municipal Fire Hose

A new line of municipal fire hose incorporating the most important improvements offered within many years is announced by the B. F. Goodrich Company, Akron, Ohio.

Greatest single result of the improvements is to provide greatly increased flexibility under all weather conditions without sacrifice of the strength and wearing quality built into the hose. This has been accomplished through a research program which led to the development of stronger and more compact yarns and water repellent jacket treatments which do not harden in zero temperatures.

Advantages of increased flexibility are: The hose is much easier to handle when coupling at the hydrant; can be handled quicker and easier on the ladder; is racked in the trucks with less effort and time; and folds closer in racking, permitting more hose to be carried.

Another improvement is in the Hydroseal treatment to make the hose water repellent and mildew resistant. Previously these treatments have had a tendency to harden at low temperatures, but a new compound eliminates this condition.

Stephenson Joins Emerson Company

Announcement has been made that William H. Stephenson, who has represented resuscitation equipment under the firm name of E & J Company of New York, has joined the J. H. Emerson Company, Cambridge, Mass. Mr. Stephenson will not only distribute its new resuscitator, but he will also distribute all of its products including infant incubators, fever therapy cabinets, the well known Emerson Resuscitator or "Iron Lung," and the suction pressure apparatus or "Glass Boot."

Wooster Brass Company Formed

Announcement is made of a new corporation, known as the Wooster Brass Company, 1415 East Bowman Street, Wooster, Ohio, which will manufacture and distribute hose brass goods and related products for municipalities and all engineers engaged in fire fighting. John C. Schellin, one of the founders of a leading manufacturer in this line, and well known through many years of activity and experience in designing engineering and sales of such products, is President and General Manager of the new Company.

John C. Schellin

A new plant has been acquired, containning 15,000 square feet of floor space, and of such construction as to lend itself for an ideal production program. A full line of fire department supplies will be manufactured, in addition to taking on the manufacture and sale of many special items. Most of the plant equipment has been received and it is estimated that the production of major items in the Fire Department line will start in about six weeks.

Atlas Trailers Start Tour

Beginning July 1, a squadron of Atlas Life Net Trailers started a tour of the country. The group is headed by the Sales Manager, Arthur Myers, whose schedule includes the International Association of Fire Chiefs Convention at Spokane, Wash.

Each of these Atlas trailers carries in its compartment a full-sized Atlas life net, miniature Atlas drill tower safety training net, Atlas life belts and other equipment manufactured by the Atlas Fire Equipment Co., of 26 Warren St., New York.

Firemen to Mark 100th Anniversary

The 100th anniversary of the Washington Engine Company, No. 2, of Peekskill, N. Y., will be observed on Labor Day with the entire department consisting of over 600 men participating. Including many outside firemen, it is estimated that at least 1,800 will be present.

CHIEF J. A. SLOAT,
Peekskill Fire Department

Harry A. Holmes Dies

Harry A. Holmes, Sales Manager, Eddy Valve Company, died at his home at Jackson Heights, N. Y., on June 20 following a short illness.

The Late Harry A. Holmes

He was born in Ballston Spa, and his family moved to Waterford while he was still a youth. His father became Superintendent of the foundry department of the Eddy Valve Company.

Mr. Holmes graduated from the Waterford High School and later completed a business course. Thirty-eight years ago he entered the employ of the valve company as an office worker, and he was promoted to various positions. Ten years ago he was named sales manager.

He was long active in politics and in 1905 organized the first Republican Club in Waterford, maintaining interest in that organization until he left for New York. He had served several terms as town clerk of Waterford. For an extended period, he was county delegate to state Republican conventions.

Mr. Holmes was a past master, Clinton Lodge, F. & A. M., and a member of the Waterford Presbyterian Church.

He is survived by his widow, two daughters, and a brother. Funeral services were held at Waterford.

Rowley Appointed Fire Commissioner

Attorney Charles F. Rowley, former Chairman of the Brookline, Mass., Board of Selectmen, and a member of the Board for ten years, was elected Fire Commissioner of that town. He succeeds Dr. G. W. Goode.

Harris Brothers
"WORLD FAMOUS SEARCHLIGHTS AND FIRE EQUIPMENT"

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Many hundreds of these lights still in service after 20 years' use.

It pays to buy the best in the long run.

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Harris Brothers Mfg. Co.
Dayton, Ohio

CUSTOM-BUILT
FIRE APPARATUS
at
standard
prices

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CAYASLER
MANUFACTURING CO.
1546 William Street
Buffalo, N. Y.

Radio Proves an Asset

(*Continued from page* 389)

tion with both the fire alarm office and the Chief's office.

Newton, Mass.
C. W. Randlett, Chief

We use two-way radios in our department. They are installed in the Chief's and Assistant Chief's cars, and the lighting plant truck. We have found these sets beneficial in sending additional alarms, returning apparatus enroute to the fire back to the fire houses when they are not needed, speeding up communication, and in keeping in contact with headquarters constantly. We had one-way equipment for some years, but in 1939 we had the two-way equipment installed. We consider this a very valuable part of our equipment.

Messages or orders are carried from Fire Headquarters by wire to Police Headquarters, and out over the air from the Police Headquarters. There are two qualified operators on hand at Police Headquarters for twenty-four hours a day.

We use Westinghouse equipment installed by the Gamewell Company, and Philco receivers.

Medford, Mass.
T. A. Qualey, Chief

We use two one-way radios in our department. These are installed in the Chief's and Deputy Chief's car. The radio is one of the most important up-to-date pieces of equipment ever to be added to the fire service. The main and most important thing is that the radio will always keep the Chief, or any other officer in charge of a fire, always in touch with his department, and when the two-way radio is used, he can always keep his department in touch with him. When he arrives at a fire, if he wants help, no matter what kind, he is in a position to get it at once. This department has only one-way facilities, but I am working for the two-way radios, and the department will not be complete without them.

Our radios are operated in connection with the police radio, with a qualified operator on hand at Police Headquarters twenty-four hours a day. We use Motorola sets.

Cambridge, Mass.
H. E. Gutheim, Chief

The Chief's car and two Deputy Chiefs' are equipped with one-way radios, but we expect to have them equipped with two-way sets very shortly. Through the use of the radio we are notified of all alarms while out of quarters, and while on the road we are also notified of all accidents which may require the service of the Fire Department. I believe the radio to be an indispensible asset to efficient fire fighting especially when the exact location of the fire can be given while we are enroute to the fire.

All broadcasting comes through the Police Department. Qualified operators are on duty twenty-four hours a day at Police Headquarters. A super-heterodyne set is installed in the Chief's car and the radios in the Deputy Chiefs' cars were made by the Radio Engineer of the Police Department.

Lynn, Mass.
J. E. Scanlon, Chief

We are arranging for the use of the radio, and two sets will probably be installed in the very near future. We expect to have two cars equipped with two-way sets. I wouldn't say that the radios were indispensible, but they are extremely valuable as their use will give the Chiefs earlier notice of fires. When the radios are equipped with amplifiers, orders from the Chief can be heard more plainly in the confusion and noise which attend large fires.

Our radio will probably be operated in connection with the police radio, with a qualified operator on hand at Police Headquarters twenty-four hours a day. The sets will probably be General Electric.

Dayton, Ohio
J. A. Kirby, Chief

At the present time, we are using one-way sets, but we expect two-way sets soon. We have six one-way sets, but do not know how many two-way sets will be received. We have found the radio beneficial to district officers for emergency purposes and otherwise. I believe that the radio is an indispensable asset to efficient fire fighting.

Our radio is operated in connection with the police radio. There is a qualified operator on duty at the Police Headquarters twenty-four hours a day. We use American-Bosch and Link receivers. The transmitters that we will receive will be determined by bid.

Steubenville, Ohio
E. J. Green, Chief

At the present time, one car, the Chief's car is equipped with a two-way radio. We have found this radio beneficial in many ways. When out in the car, we are always in contact with headquarters. When making an outside run to a fire where actually we are not needed, we can be so advised. If we make an outside run where telephones are a long way off, and we need more help, it is a simple matter to call in by radio. One or two police cars answer all fire calls. Often when the companies are at fires, I will call the police operator to find out about the fire. This saves me from making unnecessary runs. I wish radios were installed on all fire trucks. We expect to install two more radios later on.

Clifton, N. J.
James Sweeney, Chief

At the present time, we have two one-way sets, but expect to have two-way radios in about thirty days. We have found the radios beneficial in several ways, such as, they keep the chief officers in touch with headquarters at all times; while working at fires, the drivers are in the car to receive alarms for any other fires or any other emergency that might occur.

Our radio is operated in connection with the police radio. There is a qualified operator on hand at Police Headquarters twenty-four hours a day. We use American-Bosch radios.

(*To be continued*)

WHERE TO BUY

A HANDY LIST OF REPUTABLE MANUFACTURERS FOR EASY REFERENCE WHEN YOU'RE IN THE MARKET FOR NEW FIRE EQUIPMENT

(Page number following each name refers to advertisement in this issue)

J. M. Loeffler (*p. 385*)
National Fire Apparatus Co. (*p. 385*)
D. B. Smith & Co. (*p. 317*)

OXYGEN REVIVING APPARATUS

Aspirators

E. & J. Mfg. Co. (*p. 379*)
J. H. Emerson Co. (*Inside Back Cover*)

Inhalators

American-La France-Foamite Corp. (*pp. 308-309*)
Bishinger-Koehler Mfg. Co. (*p. 383*)
E. & J. Mfg. Co. (*p. 379*)
J. H. Emerson Co. (*Inside Back Cover*)
J. M. Loeffler (*p. 385*)
Mine Safety Appliances Co. (*p. 354*)
Pulmosan Safety Equipment Corp. (*p. 390*)

Resuscitators

E. & J. Mfg. Co. (*p. 379*)
J. H. Emerson Co. (*Inside Back Cover*)
Pulmosan Safety Equipment Corp. (*p. 390*)

PUMPS

Fire Apparatus

American-La France-Foamite Corp. (*pp. 308-309*)
American Marsh Pumps, Inc. (*p. 385*)
Buffalo Fire Appliance Corp. (*p. 318*)
Hahn Motors, Inc. (*p. 386*)
Hale Fire Pump Co. (*p. 376*)
National Fire Apparatus Co. (*p. 385*)
Northern Pump Co. (*p. 390*)
Sealand Corp. (*p. 372*)
Waterous Co. (*p. 385*)

Hand

Akron Brass Mfg. Co. (*p. 379*)
American-La France-Foamite Corp. (*pp. 308-309*)
D. B. Smith & Co. (*p. 317*)
M. L. Snyder & Son (*p. 397*)

Portable

Buffalo Fire Appliance Corp. (*p. 318*)
Hale Fire Pump Co. (*p. 376*)
Homelite Corp. (*p. 371*)
Northern Pump Co. (*p. 390*)
Sealand Corp. (*p. 372*)
D. B. Smith & Co. (*p. 317*)

Trailer-Mounted

Buffalo Fire Appliance Corp. (*p. 318*)
Hale Fire Pump Co. (*p. 376*)
Peter Pirsch & Sons (*pp. 312-313*)
Sealand Corp. (*p. 372*)
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RECORD BOOKS AND SYSTEMS, FIRE

Cairns & Bro. (*p. 385*)

RADIO EQUIPMENT, FIRE APPARATUS

Graybar Electric Co. (*p. 369*)

SALVAGE COVERS

Elkhart Brass Mfg. Co. (*p. 353*)
Fulton Bag & Cotton Mills (*p. 383*)
Mine Safety Appliances Co. (*p. 354*)
M. L. Snyder & Son (*p. 397*)

STRETCHERS

Mine Safety Appliances Co. (*p. 354*)
Pulmosan Safety Equipment Corp. (*p. 390*)

THAWING EQUIPMENT, HYDRANT

J. M. Loeffler (*p. 385*)
Ross Valve Mfg. Co., Inc. (*p. 375*)

TIRES

Goodyear Tire & Rubber Co. (*See May Issue*)

TRAFFIC WARNING DEVICES

[*Denotes combination light and siren]

Bells

American-La France-Foamite Corp. (*pp. 308-309*)
Hale Fire Pump Co. (*p. 386*)
H. O. R. Co., Inc. (*p. 373*)
Horni Signal Mfg. Corp. (*p. 369*)

Lights

Akron Brass Mfg. Co. (*p. 379*)
Atlas Fire Equipment Co. (*p. 357*)
Buckeye Iron & Brass Works (*p. 366*)
Carpenter Mfg. Co. (*p. 389*)
Federal Electric Co. (*p. 303*)
Graybar Electric Co. (*p. 369*)
*H. O. R. Co., Inc. (*p. 373*)
Horni Signal Mfg. Co. (*p. 369*)
Peter Pirsch & Sons (*pp. 312-313*)
*Sterling Siren Fire Alarm Co., Inc. (*p. 375*)

Sirens

Federal Electric Co. (*p. 303*)
Graybar Electric Co. (*p. 369*)
*H. O. R. Co., Inc. (*p. 373*)
Horni Signal Mfg. Corp. (*p. 369*)
Seagrave Corp. (*p. 316*)
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*Sterling Siren Fire Alarm Co., Inc. (*p. 375*)

Whistles

Buckeye Iron & Brass Works (*p. 366*)
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VALVES

Hose

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Kerotest Mfg. Co. (*See June Issue*)
Ross Valve Mfg. Co., Inc. (*p. 375*)

Hydrant Gate

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Mueller Co. (*p. 390*)
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Relief

Dayton Fire Equipment Co. (*p. 370*)
Elkhart Brass Mfg. Co. (*p. 353*)
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Ross Valve Mfg. Co., Inc. (*p. 375*)
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WEARING APPAREL, FIREMEN'S

Asbestos Clothing

Mine Safety Appliances Co. (*p. 354*)
Pulmosan Safety Equipment Corp. (*p. 390*)
M. L. Snyder & Son (*p. 397*)
F. H. Wheeler Mfg. Co. (*p. 362*)

Boots

American-La France-Foamite Corp. (*pp. 308-309*)
Eureka Fire Hose Divn. (*Back Cover*)
Fabric Fire Hose Co. (*Inside Front Cover*)
Janesville Apparel Co. (*p. 394*)
Midwestern Mfg. Co. (*p. 375*)
Mine Safety Appliances Co. (*p. 354*)
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M. L. Snyder & Son (*p. 397*)

Clothing, Rubber and Canvas

American-La France-Foamite Corp. (*pp. 308-309*)
Eureka Fire Hose Divn. (*Back Cover*)
Harris Bros. Mfg. Co. (*p. 396*)
Janesville Apparel Co. (*p. 394*)
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Shirts, Uniform

Cairns & Bro (*p. 386*)

Suits, Quick Hitch

Cairns & Bro. (*p. 386*)
Dayton Fire Equipment Co. (*p. 370*)
Eureka Fire Hose Divn. (*Back Cover*)
Janesville Apparel Co. (*p. 394*)
Midwestern Mfg. Co. (*p. 375*)

For information about products of any manufacturer not listed above, write to Readers' Service Dept., FIRE ENGINEERING, 24 West 40th St., New York, N. Y.

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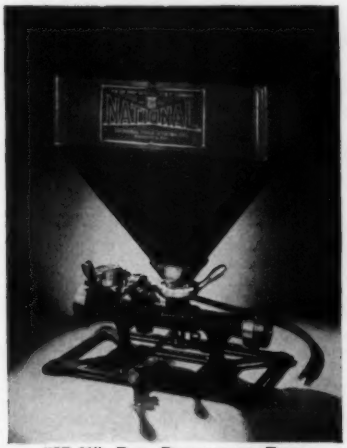

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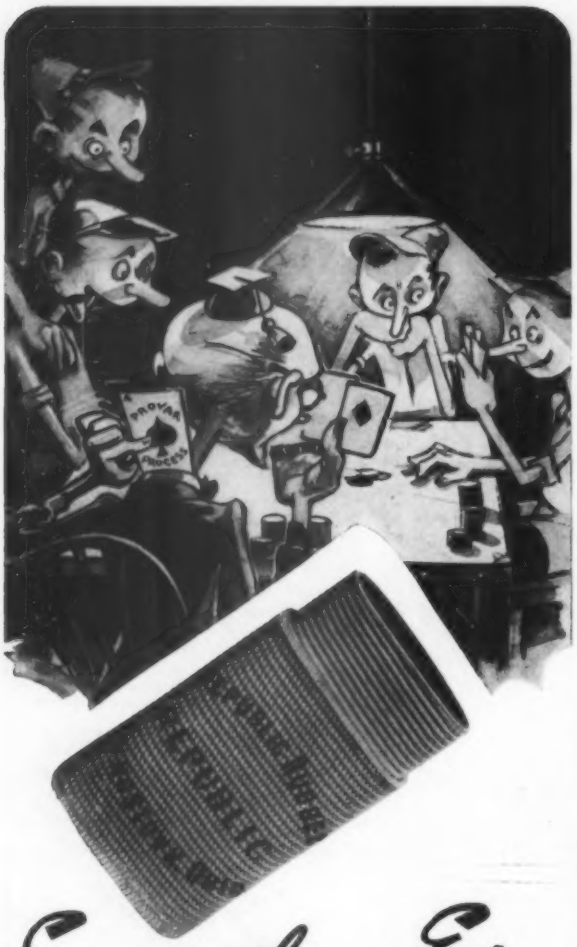

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From small volunteer units to many of the nation's largest municipal fire-control systems, Republic Fire Hose is depended upon for reliable performance and the ability to withstand every type of abuse. Rigid manufacturing control and laboratory testing provide a hose construction that justifies this confidence. Moreover, Republic Fire Hose offers an additional feature that can always be counted on . . . a safeguard against hose failure due to the destructive action of mildew and rot. This is the exclusive Provar Process—permanent treatment which neither affects the physical properties of the hose nor washes out. Republic Rubber Division of Lee Rubber and Tire Corporation, Youngstown, Ohio.

REPUBLIC RUBBER

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- √ Completely automatic and self-adjusting.
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- √ A new mechanical principle employing no pistons, no leathers and no oil.
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PARAGON 3-PLY MULTIPLE WOVEN FIRE HOSE

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● MULTIPLE WOVEN CONSTRUCTION—3 jackets—seamless and circular woven and bound together into one fabric in one operation of the loom.

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● MILDEW-PROOF FABRIC

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